



**VERA Z. DWYER**  
COLLEGE OF HEALTH SCIENCES

Indiana University South Bend  
Clinical Laboratory Science Program  
2018 Handbook

## **Mission, Goals, Faculty, and Facilities**

The Medical Laboratory Scientist (MLS) professional, also known as a Clinical Laboratory Scientist, is an integral member of the patient care team by providing diagnostic information required to identify and treat the cause of illness in patients. Formerly known as a Medical Technologist, the MLS has an aptitude for science, especially biology and chemistry, and appreciates the investigative and technical aspects of laboratory medicine. Laboratory professionals are devoted to detection and diagnosis through the analysis of blood, body fluids, and tissue. An MLS will perform hundreds of laboratory tests, for which the results are used by physicians to diagnose disease, identify the most appropriate medication and dosage, and monitor the response to treatment.

In a laboratory, a Medical Laboratory Scientist may work in a variety of areas including clinical chemistry, hematology, immunology, microbiology, and the blood bank. In clinical chemistry, tests are often performed on blood and other body fluids to determine the patient's levels of various enzymes, proteins, and hormones. Variation in these analytes is diagnostic of disease such as diabetes, cardiac abnormalities, and even organ failure. In hematology, blood is examined for indicators of inflammation and infection, as well as cancers such as lymphoma and leukemia. Blood is also tested for its ability or inability to clot appropriately. This is referred to as hemostasis. Diagnostic testing in immunology is often centered on infectious diseases, through the identification of the infecting agent or antibodies produced in the presence of such agent. The antibodies involved in autoimmune diseases, such as lupus and arthritis, are also identified in immunology. In microbiology, body fluids, tissues, and other biological specimens are examined and tested to identify microorganisms causing disease and determine effective treatment options. Microbiology testing examines bacterial, viral, fungal, and parasitic agents causing disease in humans. The blood bank may be one of the most critical areas for the health of a patient. Not only does the blood bank perform simple tests, such as determining a patient's blood type, the blood bank is also responsible for transfusion medicine, ensuring blood given to a patient is compatible and will not cause harm.

The division and programs in Clinical Laboratory Science (CLS) have been developed in accordance with the Mission and Goals of Indiana University, the Indiana University South Bend campus and the Vera Z. Dwyer College of Health Sciences. In addition, the bachelors program in CLS was built to meet the standards set the National Accrediting Agency for Clinical Laboratory Science (NAACLS).

The Bachelor's degree in Clinical Laboratory Science (CLS) prepares students for work in the clinical laboratory setting including hematology, immunology, microbiology, chemistry, phlebotomy, molecular diagnostics and blood bank. The CLS program is located in the newly renovated Riverside Hall, which houses a classroom and student laboratory.

Students may enter the program through multiple routes: as entering freshman at IU South Bend without any prior degree, as second degree students with a bachelor's degree in either biology or chemistry, or as a licensed Medical Laboratory Technician seeking progression from an associate's to bachelor's degree.

## **Division Mission Statement**

The Clinical Laboratory Science Department within the Vera Z. Dwyer College of Health Sciences is focused on training healthcare professionals in clinical, diagnostic, and therapeutic laboratory operations and related skills. In addition, the department is focused on developing community outreach and advocacy in the field of Medical Laboratory Science and related professions as well as developing diverse interprofessional collaborations that involve clinical laboratory analysis and research.

## **Bachelors of Sciences in Clinical Laboratory Science Mission Statement**

The mission of the Bachelor of Science in Clinical Laboratory Science (BS-CLS) is consistent with the Mission and Vision of the IUSB campus and Vera Z. Dwyer College of Health Sciences through (I) engaging students with active learning, (II) creating the first and best resources in the community, (III) embracing diversity, and (IV) striving for educational excellence in the field of diagnostic laboratory medicine. The Clinical Laboratory Science degree curriculum is designed to promote intellectual growth and increased economic vitality through a healthy, life-long work force. The Clinical Laboratory Science degree will also be an avenue for scholarship and creative activity for faculty and students. The nature of the program allows for innovation in laboratory techniques and continuing education.

## **Program Goals and Graduation Competencies**

The program is designed around the creation of a well-rounded entry level professional in the medical or clinical laboratory sciences. This includes generalized knowledge in the following professional practice areas defined by the National Accrediting Agency for Clinical Laboratory Science (NAACLS):

- Application of safety and governmental regulations and standards as applied to clinical laboratory science
- Principles and practices of professional conduct and the significance of continuing professional development;
- Communications sufficient to serve the needs of patients, the public and members of the health care team;
- Principles and practices of administration and supervision as applied to clinical laboratory science;
- Educational methodologies and terminology sufficient to train/educate users and providers of laboratory services;
- Principles and practices of clinical study design, implementation and dissemination of results.

In addition these generalized professional practices. Students who graduate from the BS-CLS program should have entry-level competency in the content areas aligned with the 2016 revised entry-level curriculum standards produced by the ASCLS and sufficient to pass the ASCP BOC generalist exam for MLS certification. These general content areas are proscribed by NAACLS are as follows.

- Clinical chemistry
- Hematology/Hemostasis

- Immunology
- Immunohematology/transfusion medicine
- Microbiology
- Urine and body fluid analysis
- Laboratory Operations

### **NAACLS Accreditation Status**

The IUSB Clinical Laboratory Science program is currently working toward accreditation as a Medical Laboratory Science training program proscribed by NAACLS, which will allow all students who graduate from this program to sit for the American Society for Clinical Pathology (ASCP) MLS certification exam. The process of accreditation requires several stages to reach full accreditation status including an initial application, designation of a program director and supporting documents that have been received and accepted by NAACLS. After the acceptance of a preliminary report, an additional self-study document must be produced and submitted for review. Completion of this step, now underway, will designate the program as a “Serious Applicant.” This step is followed by an initial site visit. The result of which determines the length of accreditation.

For more information on the NAACLS accreditation process please visit: [NAACLS webpage](#)

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)  
5600 N. River Road, Suite 720  
Rosemont, IL, 60018

### **Division Personnel**

#### **Program Director**

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#### **Faculty**

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#### **Prior and Continuing Adjunct Faculty**

Brandy Sreenilayam, PhD  
Nongkhan Sites, BS, MLS(ASCP)<sup>CM</sup>  
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**Advisory Board**

Many members of the regional laboratory science community and affiliated community health organizations have been asked to contribute to the IUSB Clinical Laboratory Science Advisory Board. The purpose of this advisory board is to connect the CLS faculty, staff, and students at IU South Bend with valuable individuals and companies throughout the community. This board meets annually during the September/October months at the IU South Bend campus.

Current members include:

- Derrick M. Forchetti, M.D., CMIO/Pathologist, South Bend Medical Foundation
- Gina Arsenault MLS, Laboratory Director, Memorial Hospital
- Jennifer Ulrich MT, Blood Bank Lead; La Porte Hospital
- Jonathan Fuchs MT, SBB, Blood Bank Supervisor, Methodist Hospital
- Leeah Hopper, Executive Program Director; AIDS Assist
- Nongkhan Sites MLS, Chemistry and Blood Bank Supervisor, Memorial Hospital
- Smruti Damania MT, Microbiology Specialist, South Bend Medical Foundation
- Susan Richeson MJ, MT, Laboratory Manager, St. Joseph Regional Medical Center
- Waldo Mikels-Carrasco, Director of Population Health Research and Development, Michiana Health Information Network

## Facilities

### Classroom and Teaching Laboratory at Vera Z. Dwyer Hall

The Clinical Laboratory Science program at Indiana University South Bend is housed in the recently remodeled Vera Z. Dwyer Hall on the IUSB campus. Dwyer Hall was remodeled for the purpose of housing the IUSB Health and Wellness Center, the offices of a federally qualified community health partner; HealthLinc, as well as the academic programs in Clinical Laboratory Science and Radiography. The Clinical Laboratory Science Program was provided facilities for faculty offices, a shared state-of-the-art classroom, a teaching laboratory, and a shared phlebotomy draw room.

This facility was built with the dual intention of providing both practical laboratory skills training and simulating the design and structure of a contemporary clinical lab. Facilities include student benches and chairs, wall benches with extensive storage, sinks, an emergency eye wash and shower, and DI water filtration system. Two additional rooms were incorporated into the lab design. One room was dedicated to a full size steam autoclave and additional storage, the other room was designed for cell culture and included two BSL2 biosafety cabinets, a clean countertop, two refrigerators, a -20 freezer, a -80 freezer, and two incubators. Equipment was also purchased as part of the initial build, including two Sysmex hematology analyzers, a CliniTek urine chemistry analyzer, a 40 bottle blood culture system, a tabletop Guava flow cytometer, a coagulation analyzer, one refrigerated centrifuge, two traditional centrifuges, and 12 student microscopes. Additionally, equipment from community partner donations was obtained including a Piccolo chemistry analyzer and 2 Ortho-Clinical Workstations.

Post-build supplies, reagents, and minor equipment were originally estimated based on the curricular needs of the four laboratory courses as well as available capital equipment, this list was further modified by Barbara Spinda, Clinical Assistant Professor and Laboratory Manager, based on evolving needs and to accommodate the first cohort of students. Additional, small equipment such as a vortex, water baths, heat blocks, slide dryers, and rockers were also purchased for use in the training laboratory.

### Clinical Facilities

Clinical site affiliation agreements, which have been approved by the IU legal department, are on file with the South Bend Medical Foundation (SBMF), Beacon Health Systems, and La Porte Hospital through Community Health Systems (CHS). Together these institutions are capable of handling between 10 and 12 students per academic term. Additional affiliations are in process with other regional laboratories to reach our capacity of 18 student rotations per academic cohort.

We are actively engaged in working with other area laboratory organizations to facilitate further clinical site placement should the need arise or should an alternate site be required or preferable based on student situation.

Current Clinical Facilities:

- South Bend Medical Foundation (SBMF)
- Beacon Healthy Systems
- La Porte Hospital

## CLS Coursework and Outcomes Assessment

### Institutional Fees

Students enrolled in the CLS degree program pay tuition rates established by Indiana University South Bend and reported on the IUSB financial aid website (<https://students.iusb.edu/financial-aid/cost.html>). Full time IUSB students are charged for 15 credits under a campus wide banded tuition policy; which in general saves CLS students money during their three semesters within the program where 18 credits is the norm. These rates are subject to change each academic year. In addition to general course fees, students may be assessed standard Lab and Practicum Fees, also officially published and reported with each class.

### Coursework

Please refer to the IUSB bulletin for the recently approved courses. Please refer to your iGPS degree map for a list of personalized map specific courses. Public access to the IU degree maps can be found at: <https://igps.iu.edu/sisaadm-prd/?guest=true>. In general, per semester or course, a three-credit-hour course meets for 3 hours a week, a four-credit-hour course meets for 4 hours a week, and a five-credit-hour course meets 5 hours a week. Orientation, pre and post conferences, service work and non-lecture course educational experiences cannot be included in these hours.

Unless otherwise specified, the following courses are all three credits and required for completion of the clinical track in Clinical Laboratory Science Bachelor's Degree at IU South Bend.

**CLS-L201 Introduction to the Diagnostic Laboratory** (1 cr. Not mandatory but recommended for traditional track and transfer students)

This course functions as a basic introduction to the field of Clinical Laboratory Sciences. Covering all of the major sub disciplines found in laboratory diagnostics; including clinical chemistry, hematology, microbiology, and others, this course is useful for students interested in pursuing a career in laboratory science or who are curious about the role of laboratory professionals in interdisciplinary healthcare.

**CLS-L202 Laboratory Math and Techniques** (1 cr. Not mandatory but recommended for traditional track and transfer students)

This course is designed as the second of two introductory courses in Clinical Laboratory Science. Students enrolled in this course will be introduced to the practical application of mathematical operations and laboratory techniques as they apply to the clinical diagnostic laboratory field.

### CLS-C405 Clinical Chemistry

Clinical Chemistry is one of the key disciplinary areas for entry level competency as a Clinical or Medical Laboratory Scientist. This course covers the standard competencies in clinical chemistry tested in the ASCP BOC exam for generalists in Medical Laboratory Science (MLS). Students will examine the basic principles and practices used in the clinical chemistry laboratory including fundamental mathematics for laboratory measurements, analytical techniques, and clinical correlations. An emphasis will be placed on acid base balancing, lipid and protein identifications, enzymatic action, and their correlation with the endocrine system in clinical diagnostics. Should be taught in conjunction with laboratory course CLS-C406.

**CLS-C406 Chemistry Methods (2 cr.)**

In conjunction with CLS-C405 Clinical Chemistry, students will be exposed to the basic and fundamental principles of contemporary medical laboratory chemistry practice, through practical laboratories that present both the principle and procedure for basic and common chemical laboratory techniques.

**CLS-M403 Clinical Microbiology**

Clinical microbiology is one of the key disciplinary areas for entry level competency as a Clinical or Medical Laboratory Scientist. This course covers standard competencies in routine microbiology tested in the ASCP BOC exam for generalists in Medical Laboratory Science (MLS). Students will examine the foundational principles of clinical microbiology including a focus on the most common microorganisms involved in infection and their classification. Microorganisms will be defined by traditional biochemical differentiation patterns, however an additional emphasis on contemporary immunological and molecular approaches to identification will also be explored. It should be taught in conjunction with the laboratory course CLS-M404.

**CLS-M404 Microbiological Methods (2 cr.)**

Should be taught in conjunction with CLS-M403 Clinical Microbiology, students will be exposed to the basic and fundamental principles of contemporary medical laboratory microbiology practice, through practical laboratories that present both the principle and procedure for basic and common chemical laboratory techniques.

**CLS-M250 Clinical Laboratory Management, Ethics and Policy**

This course covers an entry level understanding of the specifics of laboratory management including policy and ethical responsibilities and authorities. Classes delve into five major areas beginning with strategies for career success, and discussing the key areas of laboratory management, human resources, financial management and operations. Students will be asked to incorporate these key managerial aspects in a lab development mock-up exercise.

**CLS-I407 Serology and Immunoematology**

Serology is the study of antigenic and antibodies in the blood stream and other body fluids for the utility as biomarkers in the diagnosis of disease. Similarly, these biomarkers can also be used to minimize the risks associated with the common practice of blood transfusion and blood banking, technically defined as immunoematology. This course covers both the conventional concepts and practices of antigen/antibody utilization in clinical laboratory practice with an emphasis on the blood bank. Please take in conjunction with CLS-I408.

**CLS-I408 Serology Methods (2 cr.)**

Should be taught in conjunction with CLS-I407 Serology and Immunoematology. CLS-I408 Serological Methods provides practical laboratory components useful for conducting diagnostic testing in the blood bank and immunological laboratory setting. The focus of laboratory lessons will be on acquiring the fundamental skills in lab technique and etiquette prior to clinical externships.

**CLS-C407 Hematology**

This course is an essential component of the CLS curriculum. Hematology is one of the key disciplinary areas for entry level competency as a Clinical or Medical Laboratory Scientist. This course covers standard competencies in routine hematology tested in the ASCP BOC exam for generalists in Medical Laboratory Science (MLS). Students will examine the foundational principles of routine hematologic diagnostics including hemostasis, hemoglobin synthesis, and hematological disorders. A focus will be given in the areas of erythrocyte and leukocyte morphology



and biology as well as a focus on the use of these cells in the diagnosis of disease. It should be taught in conjunction with the laboratory course CLS-C408.

#### **CLS – C408 Hematological Methods (2 cr.)**

In conjunction with CLS-C407 Hematology, students will be exposed to the basic and fundamental principles of contemporary medical laboratory hematology practice, through practical laboratories that present both the principle and procedure for basic and common hematological laboratory techniques including red and white cell differentiation, erythrocyte sedimentation, and traditional blood smear.

#### **CLS-L420 Urinalysis**

This course is a requirement for the program in Clinical Laboratory Science provided through the Vera Z. Dwyer College of Health Sciences, built in alignment with the NAACLS accreditation agency for Medical Laboratory Science (MLS). Students enrolled in this course will be taught the entry level curriculum necessary for professional certification by the ASCP BOC in diagnostic urinalysis and body fluid analysis.

#### **CLS-M411 Mycology/Parasitology**

This course is a requirement for the program in Clinical Laboratory Science provided through the Vera Z. Dwyer College of Health Sciences, built in alignment with the NAACLS accreditation agency for Medical Laboratory Science (MLS). Students enrolled in this course will be taught the entry level curriculum necessary for professional certification by the ASCP BOC in diagnostic mycology and parasitology.

#### **CLS-E401 General Externship I (5 cr.)**

The General Externship I and its companion course General Externship II will be performed during the senior year of study in the Clinical Laboratory Science program at IUSB housed in the Vera Z. Dwyer College of Health Sciences. Clinical rotations in this and its companion course will provide experience in all commonly practiced areas of clinical diagnostics including; clinical chemistry, microbiology, immunohematology, hematology, and urine and body fluid analysis. Students will be required to participate in clinical laboratory operations in regional laboratory and hospital organizations within the Michiana region that will be facilitated by the CLS program director and faculty in collaboration with clinical partners with current IUSB affiliation agreements. Entry requires successful completion of CLS courses L201, M403, M404, C405, C406, I407, I408, C407, and C408. Students should be aware that this course continues through the winter break.

#### **CLS-E402 General Externship II (5 cr.)**

The General Externship II will be performed during the senior year of study in the Clinical Laboratory Science program at IUSB housed in the Vera Z. Dwyer College of Health Sciences. Clinical rotations in this and its companion course will provide experience in all commonly practiced areas of clinical diagnostics including; clinical chemistry, microbiology, immunohematology, hematology, and urine and body fluid analysis. Students will be required to participate in clinical laboratory operations in regional laboratory and hospital organizations within the Michiana region that will be facilitated by the CLS program director and faculty in collaboration with clinical partners with current IUSB affiliation agreements. Entry requires successful completion of CLS courses L201, M403, M404, C405, C406, I407, I408, C407, and C408. Students should be aware that this course continues through the winter break.

#### **CLS- I417 Advanced Immunodiagnostics and Autoimmunity**

The prerequisite for this course is CLS-I407 or its equivalent. This course is a requirement for the program in Clinical Laboratory Science provided through the Vera Z. Dwyer College of Health Sciences, built in alignment with the NAACLS accreditation agency for Medical Laboratory Science (MLS). Students enrolled in this course will be

taught the advanced entry level curriculum necessary for professional certification by the ASCP BOC in diagnostic immunology, transfusion and autoimmune disease.

#### **CLS-C417 Advanced Hematology and Cancer**

Advanced Hematology and Cancer introduces the student to advanced topics in the development of malignancy, with an emphasis on hematological malignancies and other cancers diagnosed through blood and body fluid specimen collection techniques, as well as hematological disorders commonly found through testing in the clinical diagnostic space. Molecular, Immunological, and immunophenotyping techniques are examined in relation to widespread and well established hematological disease profiles. This course requires prior completion of CLS-C407 and CLS-C408 or entry into the MLT to CLS Degree Completion program.

#### **CLS-M411 Advanced Clinical Microbiology**

This course is an advanced course in clinical Microbiology available to students who have been successfully admitted the clinical program in Clinical Laboratory Science. Students should have already completed CLS-M403 and CLS- M404 or be alternatively be admitted the MLT to CLS degree completion program. Students in this course will be introduced to advanced methods used in the microbiological laboratory including but not limited to an examination of serological and molecular approaches, vaccination from infection, and agents of bioterrorism.

#### **CLS-C415 Clinical Molecular Diagnostics and Special Chemistry**

Clinical Molecular Diagnostics and Special Chemistry is an upper division course in the Clinical Laboratory Sciences. Entry into this course is limited to students currently coded into the clinical track for CLS. Students should have previously completed both CLS-C405 and CLS-C406. This course is focused on providing advanced practical skills in clinical chemistry and molecular diagnostic techniques utilized in the field of medical laboratory science.

## **Outcomes Assessment**

A number of IU system wide software tools will be utilized for the assessment of student, faculty, and program outcomes. The IU system uses the Taskstream Assessment Management System ([www.watermarkinsights.com](http://www.watermarkinsights.com)) for programmatic assessment that allows us to align the needs of NAACLS accreditation outcomes to our programmatic objectives. Outcomes that correlate with the

three key student outcomes; graduation/attrition rates, placement rates, and certification pass rates, have been incorporated into this reporting system for yearly review. In addition, student evaluation of faculty and course content is requested for every course through the eXplorance Blue course evaluation software. This includes university wide questions, as well as college, division, and course specific questions added by the instructor. This system allows for a semester-by-semester examination of faculty performance and course content delivery. Faculty are encouraged to develop course specific questions that help them gauge course specific objectives. Furthermore, syllabi are designed to align with NAACLS, ASCP, and ASCLS-ELC objectives. Using these two assessment systems, the program director can run both semester-to-semester and year-to-year reports to assess trends in quality and performance at the level of the entire program and at the level of the individual course. Professors are instructed to reflect on their courses annually and to provide feedback for areas of improvement through the institutionally sponsored Digital Measures Activity Insight (DMAI) tracking system (<https://www.digitalmeasures.com/activity-insight/why-activity-insight.html>), that serve as the basis for the system-wide faculty annual review (FAR). This process establishes the faculty member as the first level of accountability for course success. Administrators can then exam the instructor's reflection of their courses over time (see attached example in appendix 2).

Additionally, student performance can be tracked within the term, using our internal Student Engagement Roster (SER) reporting system in our online performance reporting system. This allows for nearly instantaneous feedback to individual students were any trending away from success and provides them with guidance for finding support. Student academic performance can also be tracked within our Student Information System (SIS) to compare prerequisite course completion and grading with CLS specific course grades and standing. Through these metrics, course outcomes will be compared with graduation rates and ASCP BOC exam pass rates. Additional assessments of employment and advanced degrees will be calculated as well through post-graduation surveys. These results will be posted online once they become available after the end of each academic year.

Specifically, The CLS program will document the following information and make it available publicly on our webpage (<https://healthscience.iusb.edu/clinical-laboratory-science/>).

- External certification results
- Graduation rates
- Placement rates (i.e., employment positions in the field of study or pursuit of further education)
- Attrition rates

## **Clinical Laboratory Sciences Policies**

### **Admission, Progression and Graduate Policies:**

#### **Admission Criteria**

There are three routes to admission into the bachelors of Clinical Laboratory Science; these are the traditional track, 2<sup>nd</sup> degree student track, and MLT to CLS completion track. In each case there are considerations for entry into the clinical track that are governed by the state and institutional policy. All students completing the program must complete a minimum of 120 credits to graduate.

Acceptance to the Bachelor of Science in Clinical Laboratory Science is completed in two phases. First, students must officially apply to Indiana University South Bend through the campus admissions office <https://admissions.iusb.edu/> with an intention of entering the College of Health Sciences as a Pre-CLS student. Students are guided through this process based on their current standing as ‘First year’ students, ‘Returning’ students, or ‘Transfer or 2nd Degree’ students; all categories that CLS students may fall into. This admission process is standardized across the campus. Once fully admitted into IUSB, students are reviewed by the college through our Health Science Advising team, who assess their course load and guide them toward the usage of the online iGPS degree plan tracking system.

While specific differences are found in each type of application, some common requirements are provided in the below table.

| <b>General CLS Clinical admission Process</b>                                                                  |
|----------------------------------------------------------------------------------------------------------------|
| 1. PRIOR ACCEPTANCE INTO IUSB AS A PRE-CLS STUDENT                                                             |
| 2. EXAMINATION OF EXISTING TRANSCRIPTS TO DETERMINE TERM OF PROGRAM CONVERSION FROM PRE-CLS MAJOR TO CLS MAJOR |
| 3. REVIEW BY PROGRAM DIRECTOR AND ASSISTANT DEAN OF STUDENT SUCCESS                                            |
| 4. ACCEPTANCE LETTER IS SIGNED AND RETURNED                                                                    |
| 5. ACCEPTANCE PACKET IS SENT OUT FOR COMPLETION AND RETURN                                                     |

An application is also provided if the number of applicants is determined to meet or exceed the maximum number of slots available for each cohort term; only applicable during years when program enrollment is expected to exceed 18 students and only for the two tracks; **traditional** and **2<sup>nd</sup> degree students**, that will complete clinical practicums and laboratory coursework within the program.

The details regarding application are provided below:

|                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. COMPLETION OF ELECTRONIC APPLICATION                                                                                                                    |
| 2. SUBMISSION OF APPLICATION AND SUPPORTING DOCUMENTS                                                                                                      |
| <ul style="list-style-type: none"> <li>• PERSONAL ESSAY</li> <li>• BACKGROUND CHECK</li> <li>• PROOF OF HEALTH INSURANCE</li> <li>• TRANSCRIPTS</li> </ul> |
| 3. APPLICATION IS REVIEWED BY THE COLLEGE APG BOARD, PROGRAM DIRECTOR, AND ASSISTANT DEAN OF STUDENT SUCCESS                                               |

Several categories will be assessed during the Application process in order to exclude ineligible candidates and rank eligible candidates in the case of enrollment numbers above the programmatic limit of 18 students per cohort (in exceptional cases the maximum student limit can be extended to 20).

Students should consider their background when considering the CLS major tracks as the following descriptions explain.

**Traditional Track:**

- Currently enrolled at IUSB and transferring majors
- Transfer students below 56 credits
- Incoming freshmen

**Second Bachelor's Degree student Track:**

The 2nd Degree Student track is designed for those with a preexisting bachelor's degree and an interest in pursuing a career in laboratory medicine. Students applying within this track should have a bachelor's degree in biology, chemistry, or a related field of study. Students are evaluated on an individual basis to determine if their degree of study included all key competencies needed for successful completion of the Clinical Laboratory Science clinical track (see Competency checklist in Standard V supplement)

**MLT to CLS Completion Track:**

The MLT to CLS Completion Track is specifically designed for students with prior completion of an associate's degree in MLT (Medical Laboratory Technician) or comparable degree, and certification as an MLT from ASCP (American Society of Clinical Pathology). Proof of MLT certification will grant the student a transfer of 60 credit hours toward their CLS degree. These students will not be enrolled in the cohort model but will instead complete a different collection of general education, biological science and CLS specific coursework amounting for the additional 60 credit hours in a non-traditional pathway required for completion of the BS in CLS.

Students must complete 2.5 years of pre-requisite coursework as traditional students prior to entry in the clinical portion of the program. At this point, a review of all courses is conducted and students are admitted into the program by a change in degree coding. An application has been developed for the program that will be implemented when the potential student number reaches on or near maximum capacity for our facilities and clinical sites (18 students). At which time, students will be considered eligible for conversion to the clinical track. A 1-page review of this process will be made available on the institutional website through our College advising office <https://healthscience.iusb.edu/advising/index.html> (below).

The Assistant Dean of Student Success and Program Director will consider all eligibility requirements prior to sending a letter of acceptance to the program on October 1<sup>st</sup> prior to the Spring enrollment term. Students will must sign and return this acceptance letter before receiving an emailed acceptance packet. Completion of all items within the acceptance packet prior to December 1<sup>st</sup> will be required for full acceptance and enrollment to begin in the clinical track. Specifically, students who enter the program will be required to provide us evidence of vaccinations, willingness to undergo random drug screening, completion of a criminal background check, and willingness to complete CPR certification prior to moving on to any clinical site, among other disclosures and signed acknowledgements.

In the case in which student enrollment meets or exceeds max capacity; currently set at 18 students per cohort, students will be required to complete a full application process. In brief, students will be reviewed based on their GPA in key academic courses (25%), as well as a series of other categories that

will allow us to rank the students constructively and with the least amount of bias. The application ranking, as it has been designated, was built to reduce the possibility of a maximal score being reached.



## VERA Z. DWYER COLLEGE OF HEALTH SCIENCES

INDIANA UNIVERSITY SOUTH BEND

### CLINICAL APPLICATION PROCESS

#### **DEGREE: Bachelor of Science in Clinical Laboratory Science**

#### **PROGRAM OVERVIEW:**

The Bachelor of Science in Clinical Laboratory Science provides students with extensive preparation for work in the clinical diagnostic laboratory, where they will perform procedures on biologic samples from patients.

#### **PROGRAM PROGRESSION:**

- Students who successfully complete the **CLS-L 201 Introduction to the Diagnostic Laboratory** course are able to progress into the remaining 3 semesters of the degree program. If a high demand for progression exists, students will be required to submit an application (see below for ranking).
- Students must complete all applicable Degree requirements (i.e. General Education) before progression into the remaining 3 semesters of the degree program.
- Students pursuing this program as a 2<sup>nd</sup> Bachelor's Degree will have previous coursework evaluated by the Program Director and must meet all competencies before progression into the remaining 3 semesters of the degree program.

#### **PROGRAM PREREQUISITE COURSES:**

- BIOL-L102 Introduction to Biology II OR Higher
- BIOL-L211 Molecular Biology
- BIOL-L311 Genetics OR BIOL-L321 Principles of Immunology OR Other
- CHEM-C101 Elementary Chemistry OR Higher
- CHEM-C121 Elementary Chemistry Lab OR Higher
- CLS-L201 Introduction to the Diagnostic Laboratory
- HSC-H322 Epidemiology and Biostatistics OR Other
- MATH-M115 Precalculus and Trigonometry Or Higher
- MICR-M250 Microbiology OR Higher
- MICR-M255 Microbiology Lab OR Higher

#### **APPLICATION RANKING**

- Application GPA (the weighted GPA of the program prerequisite courses): **25%**
- Work experience in a clinical lab, diagnostic lab, other (not required, but preferred): **15%**
- Previous Bachelor in Science degree conferred (not required, but preferred): **15%**
- Essay (the average of reviewers' scores): **15%**
- Campus enrollment (the weight assigned to the type of institution where the program prerequisite courses were taken): **15%**
- Course repeat (the weight assigned to the number of program prerequisite courses that were repeated): **15%**

## Essential Functions

Essential functions are the physical, intellectual and behavioral requirements of the program that a student must be able to master in order to successfully participate in the CLS program and become employable. Examples of the program's essential functions are provided below. In compliance with the National Accrediting Agency for Clinical Laboratory Science (NAACLS), the IUSB CLS program makes these essential functions available to prospective students and the public. Prospective students who are not sure that they will be able to perform these essential functions should consult with CLS faculty or DCHS advising for further information and to discuss individual situations.

### Visual and Perceptual Skills

A student in the CLS program must possess sufficient visual skills to perform and interpret laboratory assays and receive non-verbal communication appropriately.

Examples of visual skills include the ability to:

- Read calibration lines on pipettes and laboratory instruments that are one millimeter apart
- Characterize the color, clarity, and viscosity of biological specimens, reagents, or chemical reaction end products
- Discriminate color, shading, and fine structural differences of microscopic specimens using a clinical grade binocular microscope
- Read and interpret charts, graphs, and labels in print and video monitor
- Judge distance and depth accurately

### Motor Skills- physical ability, coordination, dexterity

A student must also possess adequate motor skills to perform a variety of laboratory assays.

Examples of manipulative skills include the ability to:

- Turn dials, press keypads and move switches on laboratory instruments
- Grasp and release small objects (specimen tubes, pipette tips, pipettes, reagent vials, inoculating loops, etc.)
- Manipulate objects precisely and perform assays that require fine or gross motor skills using good hand-eye physical coordination, such as pipetting, measuring, and aliquoting liquids
- Safely handle flammable and hazardous chemicals, electrical, and infectious biological materials
- Perform precisely orchestrated procedures, such as isolate bacteria in microbiology by smoothly moving an inoculation loop over the surface of an agar culture plate without tearing the surface of the agar
- Utilize a computer keyboard and mouse to operate laboratory instruments and verify and transmit data
- Lift and move objects weighing 20 pounds
- Have normal tactile feeling. Sensitivity to heat, cold, pain, pressure, etc.
- Effectively and safely move from one location to another in such areas as clinical laboratories, patient rooms, treatment rooms, and elevators

### Intellectual and Critical Thinking Skills



A CLS student must possess a range of intellectual skills that allows him or her to master the broad and complex body of knowledge that constitutes a clinical laboratory science education.

Examples of intellectual skills include the ability to:

- Read and comprehend written material
- Use critical thinking skills necessary for sufficient clinical judgment
- Follow directions and procedures accurately and completely
- Define problems, measure, calculate, analyze data, and implement solutions
- Use math to solve equations, convert units, and perform statistical analysis
- Exercise independent judgement
- Organize workspace and workflow
- Recognize potentially hazardous materials, equipment, or situations, and respond safely in order to minimize risk of injury to patients, coworkers, and self
- Communicate clearly in English (both orally and in writing) in a professional and tactful manner with patients, laboratory personnel, and other healthcare and non-healthcare coworkers
- Compare, analyze, accept criticism, and alter performance if necessary

#### **Emotional Stability and Personal Temperament**

A CLS student must possess sufficient emotional health to fully utilize his or her intellectual ability, to exercise good judgment, to complete clinical responsibilities promptly, and to relate to patients, instructors, and colleagues with courtesy, and respect.

A CLS student must be able to exhibit appropriate professional conduct that includes the ability to:

- Fulfill commitments and be accountable for actions
- Self-direct, self-correct, and be responsible for one's own learning and professional development
- Work both independently and collaboratively as a professional team member
- Make decisions, prioritize tasks, and work on multiple tasks simultaneously
- Be honest and forthright about error or uncertainty
- Maintain professional decorum and composure under the stress of didactic and clinical demands
- Show respect for cultural diversity in the classroom and clinical setting
- Exercise ethical judgement, integrity, honesty, dependability, patient confidentiality, and adhere to the academic and professional code of ethics
- Use sound judgement and decorum when in laboratory and work environment

## Application Ranking Criteria

A maximum capacity program will trigger the use of a clinical application, which, in addition to college GPA and course expectations, also assesses the student via the categories listed in the CLS Application Process Page, Application Ranking section. These are listed below.

1. Application GPA (the weighted GPA of the program prerequisite courses): 25%
2. Work experience in a clinical lab, diagnostic lab, other (not required, but preferred): 15%
3. Previous Bachelor in Science degree conferred (not required, but preferred): 15%
4. Essay (the average of reviewers' scores): 15%
5. Campus enrollment (the weight assigned to the type of institution where the program prerequisite courses were taken): 15%
6. Course repeat (the weight assigned to the number of program prerequisite courses that were repeated): 15%

| <b>Applicant Scoring Rubric</b>                                                                                                                                                                                                                                                                                                                                                               |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Application and cumulative GPA                                                                                                                                                                                                                                                                                                                                                                | 25% |
| Work experience                                                                                                                                                                                                                                                                                                                                                                               | 15% |
| <ul style="list-style-type: none"> <li>• Prior Clinical Experience</li> <li>• Prior Diagnostic Laboratory Experience</li> <li>• Other laboratory experience</li> </ul>                                                                                                                                                                                                                        |     |
| Essay Score (3 reviewers)                                                                                                                                                                                                                                                                                                                                                                     | 15% |
| 2 <sup>nd</sup> Degree                                                                                                                                                                                                                                                                                                                                                                        | 15% |
| Campus Enrollment                                                                                                                                                                                                                                                                                                                                                                             | 15% |
| <ul style="list-style-type: none"> <li>• All prerequisites IUSB (5)</li> <li>• Any transfer credits from IU system (4)</li> <li>• Any transfer credits from another bachelor granting institution (3)</li> <li>• Any transfer credits from 2 year institution <b>with</b> an agreement (2)</li> <li>• Any transfer credits from 2 year institution <b>without</b> an agreement (1)</li> </ul> |     |
| Course Repeat                                                                                                                                                                                                                                                                                                                                                                                 | 15% |

## Post Acceptance Requirements

The following table articulates the types of documents and releases that are required for participation in any clinical track program within the Vera Z. Dwyer College of Health Sciences included CLS.

In addition, each student will be required to purchase a name badge, lab coat, nitrile gloves and addition course specific supplies. Laptops are also a requirement of all programs within the Vera Z. Dwyer College of health sciences.

| Post-Acceptance documentation/expectations |
|--------------------------------------------|
| Release of health documentation            |
| Vaccines/flu shot                          |
| Physical                                   |
| CPR                                        |
| OSHA compliance                            |
| Blood borne pathogen compliance            |
| HIPPA compliance                           |
| Clinical orientation attendance            |

### Student Advising

Students admitted in the Vera Z. Dwyer College of Health Sciences are required to set up appointments with the Vera Z. Dwyer College of Health Sciences Academic Advising and Student Success Center. Prior to transition to the clinical track, students will discuss scheduling of courses with the advising center team.

The Vera Z. Dwyer College of Health Sciences Advising Center provides academic advising services to all College of Health Sciences students in a professional, collaborative and ethical manner. Current students may schedule an advising appointment by logging into the [Student Appointment Scheduler \(SAS\)](#) app in their One.IU account. Students inquiring about the program requirements should contact:

Janielle Tchakerian, M.Ed  
Assistant Dean for Student Success  
Northside Hall, 415  
(574) 520-4238  
[jtchaker@iu.edu](mailto:jtchaker@iu.edu)

Faculty advising is performed by the Program Director or members of the Clinical Laboratory Science faculty. After acceptance into the clinical track continued discussions of course schedules will be facilitated by the CLS faculty.

## **Rotation Assignment**

Clinical assignments cannot be immediately guaranteed. However the Program Director and faculty closely monitor the number and quality of our community site partners, and attempt to place all students. Students may be expected to interview prior to placement and clinical sites may reserve the right to refuse students.

Community sites will be authorized to determine the order of rotations, as long as they do not conflict with campus semester and vacation scheduling. Exceptions to this rule must be discussed and approved in advance by members of the University Administrative team.

In general students will be expected to complete the following rotations:

**Chemistry - 2 weeks**

**Urinalysis / Body fluids - 2 weeks**

**Hematology / Hemostasis - 3 weeks**

**Microbiology - 4 weeks**

**Immunology - 2 weeks**

**Blood bank - 3 weeks**

**Phlebotomy - 0.5 weeks**

All attempts will be made to accommodate student/site requests in order to facilitate completion of the externship rotations during the ideal period of time within the student's senior year.

## **Student Grievance and Appeals**

A policy for student course grievance and appeal has been established by the Vera Z. Dwyer College of Health Sciences (policy 7.2 B, transcribed as it appears online at <https://healthscience.iusb.edu/about/policies.html>) and applies to all student grievances within the CLS program.

Students have the right to dispute a grade they have received. However, there is a process for disputing the grade. If a student disputes his/her final course grade, the student must discuss the matter with the faculty member assigning the grade no later than three years from the end date of the semester in question. The procedure below is for any student who decides to grieve a course grade that is taught within the Vera Z. Dwyer College at Indiana University South Bend:

1. A student must provide a written appeal to the faculty member(s) of record for the class within 7 days of receiving the grade. This process is only after the student has met with the instructor(s) and the conclusion is the instructor(s) are not willing to change the grade.
2. The faculty member(s) will review the student's written appeal and provide a written response within 10 days of receiving the appeal.

3. If the student wishes to appeal that decision, the student must provide a new written appeal to the program director that oversees the course.
4. The program director will review all of the written appeals, meet with the student and provide a written response within 10 days of receiving the appeal.
5. If the student wishes to appeal that decision, the student must provide a new written appeal to the Assistant Dean that oversees the course. The Assistant Dean will review all of the written appeals, meet with the student and provide a written response within 10 days of receiving the appeal.

If the faculty of record is no longer an employee at IUSB, the student should submit their appeal to the current Program Director that oversees the course taught. If the Program Director is the faculty of record for the class, the student must provide a written appeal to the Assistant Dean that oversees the course. If an Assistant Dean is the faculty of record for the class, the student must provide a written appeal to the Dean of the college.

After the above mentioned policy, the procedures set for in the Indiana University South Bend Policy apply: <http://bulletins.iu.edu/iusb/2018-2019/student-engagement-and-success/regulations/academic-regulations-4.shtml#grievances>

## **Student Probation, Suspension, Dismissal, and Reinstatement**

Student probation and dismissal decisions are first adjudicated by the Vera Z. Dwyer College of Health Sciences Acceptance, Progression and Graduation (APG) committee. This committee oversees recommendations for all probation, suspension, dismissal, and reinstatement cases within the Dwyer College, including the programs in Clinical Laboratory Science. A complete list of current policies can be found at <https://healthscience.iusb.edu/about/policies.html>.

Student probation may result from any failure to follow policies provided by their course instructor in an individual course, or from failure to comply with policies within this handbook, published on the college website, or published in the campus and university student handbooks.

- **Probation**

In all cases student probationary status will be initiated by the problem area assessment and personalized learning contract; as delineated in policy C-22 found at:

<https://healthscience.iusb.edu/docs/policies/Problem%20Assessments%20and%20Learning%20Contracts.pdf>.

- **Dismissal**

The policy and rationales for dismissal from the program, college, and campus are delineated in policy C-14 at: <https://healthscience.iusb.edu/docs/policies/Dismissal%20Policy.pdf>.

- **Appeal**

Students can appeals must be directed toward the Assistant Dean of Student Success listed previously in the Student Advising section of this chapter. The policy regarding the appeal of APG decisions including problem assessments, learning contracts, and dismissal can be found in policy C-1 at:

<https://healthscience.iusb.edu/docs/policies/APG%20Appeals%20Policy.pdf>.

- **Reinstatement**

Students who have been dismissed and would like to be reinstated must submit a written document to the APG committee by July 1, October 1, or February 1 prior to the semester they would like to reenroll. The policy and requirements for this written appeal can be found in policy C-23 at:

<https://healthscience.iusb.edu/docs/policies/Reinstatement%20Process.pdf>

## **General Student Conduct Policies**

The policies below are meant to be comprehensive for students in the division of Clinical Laboratory Science. Students are expected to follow all Vera Z. Dwyer College of Health Sciences level policies as well as all division level policies listed herein. When indicated with a DCHS policy number, the policies have been developed at the college level.

A complete list of college level policies can be found at

<https://healthscience.iusb.edu/policies/index.html>.

For more information on campus level conduct policies please refer to the Office of Student Conduct at

<https://students.iusb.edu/student-support-services/office-of-student-conduct/students.html>.

### **Attendance and Professional Behavior Policy (DCHS policy No. C-3)**

#### **Course Attendance**

- Students are expected to attend all lectures and are held responsible for content presented. In case of absence, it is the student's responsibility to obtain the information presented from another classmate.
- Attendance is monitored at the discretion of the instructor and will be taken into consideration when final grades are calculated.
- All classes canceled due to snow or other unforeseen events will be rescheduled, if possible, or material will be made available.
- When offered, students are responsible for attending scheduled examination hand-back sessions for review of their examinations. If unable to attend, arrangements must be made with faculty before the hand-back session.
- Further details specific to individual course attendance policies will be found in the course syllabus, ultimately at the discretion of the course faculty.

#### **Classroom Etiquette**

- In order to maintain a respectful environment, collegial behavior is required. Students who do not demonstrate professional, collegial behavior will be asked to leave the classroom and must meet with the instructor prior to the next class session. Any student who continues to demonstrate intimidating and/or disruptive behavior that interferes with a respectful environment conducive to learning may not be permitted to return to the classroom and will be referred to the Admission, Progression, and Graduation Committee of the IU South Bend Division of Health Sciences for action.
- Following IU South Bend policy, children are not permitted in the classroom at any time.
- Lecture content is presented beyond reading assignments and not all reading

- assignments are covered in the lecture—please plan accordingly when studying.
- As a courtesy, students are to request permission of the instructor conducting the class to tape/digitally record the class.
  - All handouts and test questions are considered to be the intellectual property of the course instructor. Students are prohibited from posting and/or sharing handouts or test questions with other students. Sharing test questions with other students is considered as cheating and will be dealt with according to IU South Bend policy.
  - Often PowerPoint handouts are provided for each lecture on Canvas. It is not mandatory for students to print out the handouts, which are provided as a courtesy to students. Students should be prepared to take detailed notes. These handouts are intended as a tool for students and should not be distributed for uses beyond the class note-taking.

### **Critical Behaviors Policy (DCHS Policy No. C-13)**

Each of the following critical behaviors listed below can lead to course failure and/or appropriate academic and disciplinary actions.

1. Breach of client confidentiality.
2. Untruthfulness or misrepresentation of facts.
3. Cheating including plagiarism.
4. Lack of professional attire and demeanor at any time in the clinical area.
5. Lack of prompt notification of appropriate persons when errors occur in the clinical area.
6. Consistent tardiness without notification of appropriate faculty and the clinical area.
7. Repeated lack of knowledge or inability to transfer knowledge from pre-requisite courses to current clinical situations.
8. Consistent demonstration of lack of respect for human dignity and the uniqueness of the client unrestricted by consideration of social or economic status, personal attributes or the nature of the health problem.

### **Student Drug Screen Policy (DCHS Policy No.C-27)**

The Vera Z. Dwyer College of Health Sciences enforces a zero tolerance for impairment due to alcohol and/or drug use while on campus or in clinical/HSC Internship affiliation experiences. Infringement of this policy will cancel the offer of admission, and for those admitted to the programs, be subject to disciplinary action up to and including academic dismissal. Students will be notified by mail about the time and location of drug screening. Results will be submitted to the Program Director or designee.

1. Student admission to the clinical programs/HSC Internship is contingent upon a drug screening test result indicating no evidence of drug use. A drug screening result indicating dilution of the sample will require a repeat drug test.
2. The student is responsible for the cost of the drug screening which is part of the background check conducted for admission and the screening must be completed by the date designated by the clinical program. Screen must be collected by the IU South Bend Health and Wellness center prior to starting the clinical/professional portion of any clinical program/HSC Internship.
3. In the event of a drug screening result indicating use of an illegal drug or controlled

substance without a legal prescription, student admission to the clinical programs/HSC Internship will be denied. Results will be submitted to the program director or designee. Duty to Report: if the student is a licensed/registered health professional, a report will be made to the Attorney General and Indiana Professional Licensing Agency (or in the state(s) in which the applicant holds a license).

4. Students may be permitted to take legally prescribed and/or over-the-counter medications consistent with appropriate medical treatment plans while on duty. However, when such prescribed or over-the-counter medications affect clinical/ internship judgment, the student's safety or the safety of others, the student will be removed from clinical/HSC Internship. The program Director will be consulted to determine if the student is capable of continuing to participate in academic and clinical/internship programs. (All HSC clinical or internship students, The Admission, Progression, and Graduation (APG) Board may be consulted)
5. After admission to the clinical programs/HSC Internship, at any time faculty, clinical agency representative and/ or an administrator suspect a student is impaired due to drug or alcohol use while in the clinical/internship, classroom, or campus areas, the student will be removed from the area and required to undergo immediate testing for drug and alcohol use at the student's expense. Impaired students will not be permitted to drive and must bear the cost of transportation. The student will be suspended from all clinical//HSC Internship activities until the investigation into the situation is complete.
6. In the event of medication administration/handling discrepancy (i.e., in the case of the improper documentation of narcotics) or in the event of a medical error, accident or injury, testing will be conducted according to the policy of the clinical agency.
7. Referrals for evaluation and counseling for drug and/or alcohol use will be a part of a plan for a student with a positive screening or incident related to drug or alcohol use.
8. In the event of a positive drug screening of a student currently enrolled the clinical programs/HSC Internship; the student will be suspended from the program pending review by the Admission, Progression, and Graduation (APG) Board. Duty to Report: if the student is a licensed/registered health professional, a report will be made to the Attorney General and Indiana Professional Licensing Agency (or in the state(s) in which the applicant holds a license).
9. More frequent drug testing (ex. annually) can be implemented at any time and without further notice.
10. If a student is reinstated after a positive result, that student is required to undergo random screening each semester and will be dismissed if any further positive results are found.

#### **Impaired Student Policy (DCHS Policy No. C-18)**

IUSB Vera Z. Dwyer College of Health Science as well as all agency policies and practices enforce a zero tolerance for alcohol and/or drug use.

1. The Statement of Adherence of Internship Facility Policies and Procedures form will be signed by the student upon beginning the internship course and will remain in effect while the student is matriculating in the internship.
2. The faculty or staff member who suspects impairment will request that the student immediately leave the area while ensuring the student's safety.



3. The faculty member will determine the most appropriate substance testing location. The student is responsible for receiving immediate testing and bears the costs involved in the testing. If the testing location is not on site, the student will bear the cost of public transportation to the site. The student will be suspended from all internship activities until the investigation into the situation is complete. Results must be submitted to the Director of the Program by the testing facility.

### **Writing Expectations** (*DCHS Policy #C-32*)

Writing competency is an expected outcome of all programs within the IUSB Vera Z. Dwyer College of Health Sciences and the University. In an effort to prepare students to meet this vital competency, faculty has developed the following criteria to be used in assessing student writing:

- The writing has a focus.
- The writing is organized with an introduction, purpose, sense of audience, thesis and conclusion.
- The writing shows development, organization and detail; the writing reveals the student's ability to develop ideas with balanced and specific arguments.
- The writing is clear.
- There is coherence within and between paragraphs.
- The writing reflects critical thinking and linking the specific to the general.
- The writing contains appropriate sentence structure, variety, punctuation and spelling; it is free from errors in grammar and punctuation/
- The writing follows APA style and format unless otherwise specified for a specific purpose.
- The writing demonstrates original work, and where ideas or materials of others are used, appropriate credit is given to original sources.

### **Plagiarism** (*DCHS Policy No. C-21*)

Every student shall complete the plagiarism tutorial, and the certificate shall be filed in the student record. Refer to the IU Code of Student Rights, Responsibilities and Conduct Part 2: Student Responsibilities. Plagiarism is a reportable offense in all instances, which will be recorded with the Office of Student Conduct.

## **Laboratory Etiquette and Attire**

### **Appearance Code**

The Appearance Code provides IU South Bend Division of Clinical Laboratory Science students with information necessary to select on-duty attire and accessories which are compatible with professionalism, employee identification, neatness, and modesty. If attire is unacceptable to the instructor or internship coordinator, the student may be sent home and will have to make up time at their expense.

### **Professional Attire**

#### ***CLS Classroom and Laboratory***

Students are expected to wear a laboratory coat at all times during classroom laboratory activities. Short and open-toed shoes are not permitted in the laboratory. Hand washing is required on entry and exit of the laboratory space. Gloves and other appropriate PPE is required during all laboratory procedures.

#### ***Generalized Attire for Clinical Sites/Practicums***

Please refer and conform to all attire policies for the clinical site that you are assigned. Generalized attire guidelines for laboratory usage should act as a guideline (see above).

### **Picture ID**

A valid IU South Bend picture ID or valid driver's license must be carried with the student at all times. Certain agencies may require displaying of your identification as part of your uniform.

### **Professional Wear for Volunteer Activities**

When assisting with health programs and assignments outside traditional settings (health fairs, ceremonies, volunteer efforts connected to the school, etc.) please check with the instructor or coordinator of the program for appropriate attire.

### **Specific Attire for Selected Clinical Partners**

Students are required to wear Lab coats and appropriate PPE at all clinical sites. In addition, all students are required to wear a university issued ID.

## **CLS Student Expectations**

In general, students in the CLS program are expected to conform to the Vera Z. Dwyer College of Health Sciences conduct policies as described in Section I of this chapter.

1. Students are expected to attend and be on time to all classes.
2. Students are expected to follow all safety and policy guidelines during Class, Laboratory or Externship rotation.
3. Students are required to comply with all college level health and safety documentation policies.
4. Students are expected to represent the program, college, and university as professionals during their time within the academic program.
5. Students are not expected nor required to obtain any external certification prior to graduation from the program or as a term of any course.
6. Students are not expected nor required to complete service work during their externship period in return for credit or as a condition of course completion.
7. Failure to follow University, College, or Programmatic policies may be grounds for corrective action or removal from the program.

## General Safety and Risk Management Policies

All students in the Clinical Laboratory Science program are required by NAACLS to complete safety and bloodborne pathogen training. Standardized training for biosafety and bloodborne pathogens have been created by the IU Office of Environmental Health and Safety. A record of course completion is to be held on file with the Program Director prior to clinical site placement.

Students can access this training (updated annually) by typing in the correct Keywords at <https://expand.iu.edu/browse/e-training>.

Required training: **Bloodborne Pathogens Training - Clinical and Research**

### Biosafety Training

*In the event of a laboratory injury or exposure during classroom training, please refer to section III of this chapter for more laboratory specific details.*

The following general bio-safety policies and bloodborne pathogen guidelines are duplicated from the Dwyer College of Health Sciences Policy manual to provide additional guidance to students, updates to these policy can be found online at: <https://healthscience.iusb.edu/policies/index.html>.

### Bio – Safety Policy (DCHS Policy No. C-4)

Health care workers (HCW) have both a professional and legal obligation to render treatment utilizing the highest standards of infection control available. Strict adherence to the principles and practices of infection control will ensure the standard of care and practice expected by both practitioner and patient.

The Indiana University South Bend Exposure/Infection Control policies and procedures are based on the concept of Standard Precautions and are in compliance with the current recommendations of the United States Public Health Service and Occupational Safety and Health Administration. Standard Precautions refers to an approach to infection control that assumes all human blood and other potentially infectious materials (OPIM's) of all patients are potentially infectious with HIV, HBV, or other bloodborne pathogens. Standard Precautions are intended to prevent healthcare workers from parenteral, mucous membrane and non-intact skin exposure to bloodborne pathogens while carrying out the tasks associated with their occupation.

### SECTION I: Objectives for the Delivery of Care

Infectious Diseases: The IUSB- CHS has the obligation to maintain standards of healthcare and professionalism that are consistent with the public's expectations of the health professions. The following principles should be reflected in the education, research, and patient care divisions for all healthcare workers, students, faculty and staff:

1. All healthcare workers are ethically obligated to provide competent patient care with compassion and respect for human dignity.
2. No healthcare workers may ethically refuse to treat a patient whose condition is within their realm of competence solely because the patient is at risk of contracting, or has, an infectious disease, such as human immunodeficiency virus (HIV) infection, acquired

immunodeficiency syndrome (AIDS), hepatitis B infection, or other similar diseases. These patients must not be subjected to discrimination.

3. All healthcare workers are ethically obligated to respect the rights of privacy and confidentiality of patients with infectious diseases.

Healthcare workers who pose a risk of transmitting an infectious agent should consult with appropriate healthcare professionals to determine whether continuing to provide professional services represents any material risk to the patient, and if so, should not engage in any professional activity that would create a risk of transmission of the disease to others.

## SECTION II: Guidelines for the Admission and Progression of Students Who are HIV or HBV Positive

Policy: Qualified individuals will not be denied admission into courses in the College of Health Sciences on the basis of HIV or HBV status.

Guidelines:

1. Upon voluntary report of HIV or HBV infection by a student to any faculty member, administrator, or dean, efforts will be made to:
  - Maintain confidentiality of the infection information.
  - Advise the student to receive appropriate treatment and counseling from a qualified healthcare professional.
  - Reinforce the consistent use of Standard Precautions in clinical practice.
  - Assign responsibilities to the infected student that do not require the performance of exposure-prone invasive procedures (as outlined by the affiliated agency or office).
2. Any modifications in clinical activity will be determined by a Bloodborne Pathogen (BBP) Expert Review Panel who will take into account the nature of the clinical activity, the technical expertise of the infected student, the risks imposed by HIV or HBV carriage, functional disabilities, and the transmissibility of simultaneously carried infectious agents.
3. Refusal for admission to a clinical course will occur only after attempts to make reasonable accommodations result in undue hardship to the College of Health Sciences.

## SECTION III: Guidelines for the Bloodborne Pathogen-Infected Healthcare Worker

Currently available data provide no basis for recommendations to restrict the practice of healthcare workers infected with HIV or HBV who perform invasive procedures not identified as exposure-prone, provided that Standard Precautions are adhered to in practice.

In order to reduce, to the greatest extent currently possible, the potential for transmission of bloodborne pathogens from the BBP-infected HCW to a patient, and to support the HCW's efforts to practice safely, the College of Health Sciences has adopted the following guidelines.

1. All activities related to patient care by students of Indiana University South Bend will be carried out in accordance with the College's Bio-safety Policies. The policies and procedures in this document are based upon Standard Precautions currently practiced by the faculty, staff and students in the IUSB-CHS and are consistent with United States Public Health Service, Indiana State Department of Health and the Indiana Occupational Health and Safety regulations.
2. All HCWs who provide direct patient care (including faculty, staff and students) are encouraged to undergo voluntary HIV testing and to know their hepatitis B virus (HBV) immune status. HIV testing is not mandatory.
3. Any HCW involved in clinical practice that believes that he/she may be at risk of HIV or HBV infection should be voluntarily tested for confirmation.
4. Upon voluntary report of HIV or HBV infection by students, faculty or staff to their unit director or Dean of the College of Health Sciences, efforts will be made to:
  - Maintain infection information confidential.
  - Advise the student to receive appropriate treatment and counseling from a qualified healthcare professional.
  - Reinforce the consistent use of Standard Precautions in clinical practice.
  - Assign responsibilities to the infected student that do not require the performance of exposure-prone invasive procedures.
5. When a HCW who provides direct patient care is infected with a BBP and informs the administration, the Dean of the College of Health Sciences may refer the case to the BBP Expert Review Panel for review and recommendation. The BBP Expert Panel has the responsibility to:
  - Review each case of a BBP-infected HCW and determine if he/she may represent an increased risk for transmission of BBP infection to a patient.
  - Make a recommendation to the Dean regarding the suitability of any BBP-infected HWC to continue to fulfill his/her clinical responsibilities or requirements in a complete modified fashion or to have his/her clinical privileges suspended.
  - Develop guidelines for use in determining the needs for both temporary and permanent administrative acts including guidelines on patient notification.

The review panel should include experts who represent a balanced perspective. Such experts might include all of the following: a) the HCW's personal physician(s), b) an infectious disease specialist with expertise in the epidemiology of HIV and HBV transmission, c) a health professional with expertise in the procedures performed by the HCW, and d) state or local public health officials(s). If the HCW's practice is institutionally based, the expert review panel might also include a member of the infection-control committee, preferably a hospital epidemiologist.

6. The Dean of the College of Health Sciences will, within a reasonable period of time, consider the above-mentioned recommendation and take appropriate action. This may include continuation of clinical responsibilities at the current level, modification of those responsibilities or suspension of clinical privileges.

7. Prior to receiving the Panel's individual recommendations, the Dean may temporarily suspend or modify privileges based on guidelines developed by the Panel.
8. This protocol is subject to annual review and modification as new knowledge and recommendations from appropriate agencies become available.

#### SECTION IV: HBV Vaccination Policy

Prior to registration in any clinical course and at the student's expense, every full-time or part-time, graduate or undergraduate student of the IUSB-CHS must undergo HBV vaccination and vaccine response evaluation unless the student is shown to be immune, the vaccine is contraindicated for medical reasons, or a declination is signed.

Evidence of receipt of the HBV vaccination and vaccine response, immunity to HBV, or declination will be filed with the student's program director/dean prior to registration in a clinical course. When the vaccine is contraindicated for medical reasons, a declination form must be signed.

Evidence of the receipt of the HBV vaccination series including vaccine response should be in the form of the vaccine, or receipt of a booster(s) should be in the form of a signed statement from the healthcare provider.

Students who have completed the HBV series prior to entry into any clinical course are governed by the CDC guideline on vaccine response evaluation.

#### CDC Guidelines for Nonresponders

HCW should be tested for antibody to HBsAg (anti-HB's) 1 to 2 months after completion of the 3-dose vaccination series (CDC Immunization 1997). Persons who do not respond to the primary vaccine series should complete a second 3-dose vaccine series or be evaluated to determine if they are HBsAg-positive. Revaccinated persons should be retested at the completion of the second vaccine series. People who prove to be HBsAg-positive should be counseled regarding how to prevent HBV transmission to others and regarding the need for medical evaluation. Nonresponders to vaccination who are HBsAg negative should be considered susceptible to HBV infection and should be counseled regarding precautions to prevent HBV infection and the need to obtain HBIG prophylaxis for any known or probably parenteral exposure to HBsAg positive blood.

Declination Form should be stated as follows (source: FR Doc. 91-28886, December 6, 1991):  
***I understand that, due to my occupational exposure to blood or other potentially infectious materials as a student in a healthcare program, I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with the hepatitis B vaccine at my own expense. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupation exposures to blood or other potentially infectious materials and I want to be vaccinated with the hepatitis B vaccine, I can receive the vaccination series at my own expense.***

#### SECTION V: Post-exposure Evaluation and Follow-up

Policy: Any student occupationally exposed to blood or other potentially infectious material while performing in the healthcare program, will be counseled by a HCP as soon as possible after exposure and provided preventive treatment and counseling, as appropriate, at the student's expense.

Procedures:

1. Immediate Procedures
  - Cleanse the wound with soap and water, and apply protective covering.
  - Flush mucous membranes with water.
  - Report incident to supervisor.
2. When there is an occupational exposure to blood or other potentially infectious material while performing as a healthcare program student, the student should be counseled to be evaluated by a HCP as soon as possible after exposure and no later than within the first 24 hours after exposure.

***HCP should be provided an incident report, past information on student's hepatitis B vaccination and any past exposure incidents.***

3. The HCP will determine whether treatment is indicated and develop plans for post-exposure follow-up, if indicated.
  - Evaluation and treatment information will be discussed by the HCP with the exposed student.
  - A record of this evaluation and treatment information will be retained by the HCP and is confidential unless written permission is granted by the exposed student for release of the information.
  - Expenses for post-exposure evaluation and follow-up for the exposed student will be the responsibility of the student.

## SECTION VI: Latex Allergies Policy

Students with latex allergies must have documentation from a primary care provider in order to be provided accommodations. Those who experience symptoms that may indicate a latex allergy should complete an accident/exposure report form of the affiliated agency/program.

Procedures:

- Students with latex sensitivity will have documentation of the sensitivity placed on file with the student's program director/dean prior to registration in a clinical course. Documentation of the sensitivity should be in the form of a signed statement from the student's healthcare professional (HCP).
- Students should notify each clinical faculty for accommodations. Students will be asked to follow the specific guidelines/procedures of the clinical agency where they are assigned.
- Information: Latex allergies involve any physical reaction from the exposure to latex products (including rubber products). The symptoms may range from localized skin reactions to non-localized reactions. Symptoms may include any of the follow:



- Contact dermatitis (skin reactions) including dry, crusting, thickening, or peeling skin, scabbing sores, swelling and raised areas of skin that may be pink or blanched (white).
- Non-localized reactions such as the development of hives over parts of the body that did not come into contact with the latex, tearing, itchy eyes, swelling of the eyelids, lips or face, runny nose, cough, or wheezing.
- Increased symptoms of a non-localized reaction may include nausea, abdominal cramps, difficulty breathing, rapid heart rate, sudden decrease in blood pressure, and shock.
- Anyone has the potential to be latex sensitive. However, the following seem to have an increased risk of being latex sensitive:
  - Anyone who is frequently exposed to latex products, such as healthcare workers or persons with a history of several surgical or urological procedures.
  - Persons with chronic conditions requiring continuous or intermittent catheterization.
  - Persons with Myelomeningocele or Meningocele.
  - Persons with a history of allergies, asthma or allergies to avocados, bananas, chestnuts, kiwi, and other tropical fruits are at particularly high risk for a latex allergy.
  - Persons with a history of reactions to latex products (balloons, condoms, gloves).
  - Those who are female gender--75% with allergy are female.

Many people believe that they are allergic to powder because they have experienced problems (coughing, wheezing, skin reactions) when they are around powdered latex gloves. It is actually the latex proteins carried by the powder through the air that cause reactions in most people. Once a person has developed a latex sensitivity of any form, it is impossible to predict if the allergy will continue to produce only localized symptoms or if a more serious reaction may occur at a later date. Students who hold a prescription for an Epi-Pen will be permitted to carry it with them. It must also be documented on the Health Documentation Form.

\*This policy applies to Health Science majors at the point of internship or community course specific.

### **Bloodborne Pathogen Policy** (*DCHS Policy No. C-5*)

Almost any transmittable infection may occur in the community at large or within healthcare organizations and can affect both healthcare personnel and patients. The Centers for Disease Control and Prevention (CDC) has periodically issued and updated recommendations for the prevention of transmission of bloodborne pathogens in healthcare settings which provide detailed information and guidance. In 1991, Occupational Safety and Health Administration published a bloodborne pathogen standard that was based on the concept of standard precautions to prevent occupation exposure to bloodborne pathogens (U.S. Department of Labor, 1991).

The use of standard precautions (which incorporates universal precautions), including appropriate hand washing and barrier precautions, will reduce contact with blood and body fluids. Currently the CDC (1998) recommends that all healthcare personnel, including but not limited to physicians, nurses, technicians, therapists, pharmacists, nursing assistants, laboratory personnel, dental personnel, and students in all of these disciplines, complete an annual in-service training and education on infection control appropriate and specific for their work

assignments, so that personnel can maintain accurate and up-to-date knowledge about the essential elements of infection control.

The following topics should be included:

1. Hand washing.
2. Modes of transmission of infection and importance of complying with standard and transmission- based precautions.
3. Importance of reporting certain illnesses or conditions (whether work-related or acquired outside the healthcare facility), such as generalized rash or skin lesions that are vesicular, pustular, or weeping; jaundice; illnesses that do not resolve within a designated period (e.g., cough which persists for 2 weeks, gastrointestinal illness, or febrile illness with fever of 103 F lasting 2 days), and hospitalizations resulting from febrile or other contagious diseases.
4. Tuberculosis control.
5. Importance of complying with standard precautions and reporting exposure to blood and body fluids to prevent transmission of bloodborne pathogens.
6. Importance of cooperating with infection control personnel during outbreak investigations.
7. Importance of personnel screening and immunization programs.

To remain in compliance with the CDC recommendations, the CHS will conduct annual in-service training and education sessions for all students who enroll in courses requiring a clinical experience.

Centers for Disease Control and Prevention. (1998). Guideline for infection control in healthcare personnel, 1998. *American Journal of Infection Control*, 26, 289-354.

U.S. Department of Labor, Occupational Safety and Health Administration. (1991). Occupational exposure to bloodborne pathogens: final rule. *Federal Register*, 56, 64004-182.

[http://www.cdc.gov/ncidod/dhqp/wrkrProtect\\_bp.html](http://www.cdc.gov/ncidod/dhqp/wrkrProtect_bp.html)

\*This policy applies to Health Science majors at the point of internship or community course specific.

## Training Laboratory Bio - Safety Risks

As of July 2018, the CLS Laboratory Operations housed in Dwyer Hall Room 144, 144A, and 144B have been approved as a BSL-2 facility by the IU Institutional Biosafety Committee (IBC) under protocol # SB-978. Student activities in the CLS lab are currently restricted to teaching, however other testing may occur in this facility under an approved IU Revenue Producing Activity (RPA) #2885. Within each laboratory course, students will perform various activities related to the topic of the course. All specimens, including urine, blood and other body fluids will be handled following OSHA Universal precautions. Four laboratory courses are taught in the IUSB Riverside Laboratory; each of which has methods in the name of the course.

**CLS-C 406 Chemistry Methods:** Students will perform phlebotomy on each other to collect specimens. Blood will be processed and tested for various chemistry values and disease identification. Urine specimens will be tested macroscopically and microscopically for indicators of disease.

**CLS-C 408 Hematology Methods:** Students will perform phlebotomy on each other to collect specimens. Blood will be tested for cellular components both by instrumentation and slide preparation. Students will also test blood for coagulation function.

**CLS-1 408 Serology Methods:** Students will perform phlebotomy on each other to collect specimens. Blood will be processed and tested for various immunologic indicators of disease. Blood will also be tested for blood typing and antibody identification within the field of immunohematology.

**CLS-M404 Microbiology Methods:** Students will plate microorganisms and clinical specimens to agar plates, incubate, and perform biochemical and antimicrobial testing. Students will also create dilutions of microorganisms for testing purposes. (A list of potentially infective microorganisms is provided as an addendum to this handbook)

All work will be performed on bench top unless organisms are identified as having an aerosol risk, in which case testing and specimen manipulation will occur in BSL-II BSC or with appropriate clinical grade PPE to prevent inhalation. Students are being trained to work in a clinical facility where the predominant testing is performed without the aid of BSL-II BSC availability. Students will not be conducting extensive procedures intended to create aerosol risks. Typically specimens will be moved as single colonies or in broths for plating purposes. Mixing of colony forming solutions will be conducted by the instructor following standard safety precautions. Clinical organisms are used for training students to identify pathogenic organisms commonly encountered in the clinical for diagnostic purposes and where possible strains are used that have been shown to have reduced infectious probability.

Students are in training to become Medical Laboratory Scientists in which phlebotomy is part of their profession, while students are not required to perform phlebotomy on a regular basis, they may be asked to perform phlebotomy as part of the program requirements and training. Phlebotomy poses minimal risk to the student if performed appropriately and in a sterile fashion.

For a complete guide to IU biosafety policies please refer to <https://protect.iu.edu/environmental-health/biological/biosafety-manual/index.html> , which is produced by IU Environmental Health and Safety.

### Potentially encountered microorganisms and their safety hazards

|     |                                     |              |                                          |                   |                 |                                        | Potential Routes of Transmission<br>(check [X] all applicable routes)<br>*RG2 and higher |            |             |                                     |
|-----|-------------------------------------|--------------|------------------------------------------|-------------------|-----------------|----------------------------------------|------------------------------------------------------------------------------------------|------------|-------------|-------------------------------------|
|     | Biological Material                 | Source       | Infectious Host Range<br>*RG2 and higher | Check if Zoonotic | Risk Group (RG) | Containment Level/Biosafety Level (BL) | Injection*                                                                               | Ingestion* | Inhalation* | Direct contact open wound or mucous |
| 01. | <i>Corynebacterium</i> species      | Hospital lab |                                          |                   | RG 1            | BL-1                                   |                                                                                          |            |             |                                     |
| 02. | <i>Enterococcus casseliflavus</i>   | ATCC         |                                          |                   | RG 1            | BL-1                                   |                                                                                          |            |             |                                     |
| 03. | <i>Enterococcus faecalis</i>        | ATCC         | Humans, animals                          |                   | RG 2            | BL-2                                   | X                                                                                        |            |             | X                                   |
| 04. | <i>Enterococcus saccharolyticus</i> | ATCC         |                                          |                   | RG 1            | BL-1                                   |                                                                                          |            |             |                                     |
| 05. | <i>Kocuria kristinae</i>            | ATCC         |                                          |                   | RG 1            | BL-1                                   |                                                                                          |            |             |                                     |
| 06. | <i>Listeria monocytogenes</i>       | ATCC         | Humans, animals, soil, vegetables        |                   | RG 2            | BL-2                                   | X                                                                                        | X          |             | X                                   |
| 07. | <i>Micrococcus luteus</i>           | ATCC         |                                          |                   | RG 1            | BL-1                                   |                                                                                          |            |             |                                     |
| 08. | <i>Moraxella catarrhalis</i>        | ATCC         |                                          |                   | RG 1            | BL-1                                   |                                                                                          |            |             |                                     |
| 09. | <i>Staphylococcus aureus</i>        | ATCC         | Humans and warm blooded animals          | X                 | RG 2            | BL-2                                   | X                                                                                        | X          |             | X                                   |
| 10. | <i>Staphylococcus epidermidis</i>   | ATCC         |                                          |                   | RG 1            | BL-1                                   |                                                                                          |            |             |                                     |
| 11. | <i>Staphylococcus sciuri</i>        | ATCC         |                                          |                   | RG 1            | BL-1                                   |                                                                                          |            |             |                                     |
| 12. | <i>Streptococcus agalactiae</i>     | ATCC         | Humans                                   |                   | RG 2            | BL-2                                   |                                                                                          |            |             | X                                   |

|     |                                                   |                |                                          |   |      |      |   |   |   |   |
|-----|---------------------------------------------------|----------------|------------------------------------------|---|------|------|---|---|---|---|
| 13. | <i>Streptococcus equi</i> ssp. zooepidemicus      | ATCC           | Bovine and equine species                | X | RG 2 | BL-2 | X |   |   |   |
| 14. | <i>Streptococcus pneumoniae</i>                   | ATCC           | Humans                                   |   | RG 2 | BL-2 |   |   | X | X |
| 15. | <i>Streptococcus pyogenes</i>                     | ATCC           | Humans                                   |   | RG 2 | BL-2 |   |   | X | X |
| 16. | <i>Streptococcus salivarius</i> ssp. thermophilus | ATCC           |                                          |   | RG 1 | BL-1 |   |   |   |   |
| 17. | <i>Acinetobacter baumannii</i>                    | ATCC           | Humans, environment                      |   | RG 2 | BL-2 | X |   |   | X |
| 18. | <i>Achromobacter xylosoxidans</i>                 | Hospital lab   | Humans (transient), environment          |   | RG 2 | BL-2 | X |   |   | X |
| 19. | <i>Citrobacter brakii</i>                         | Hospital lab   |                                          |   | RG 1 | BL-1 |   |   |   |   |
| 20. | <i>Elizabethkingia meningoseptica</i>             | ATCC           | Humans, soil, plants, water              |   | RG 2 | BL-2 | X |   |   | X |
| 21. | <i>Escherichia coli</i>                           | ATCC           |                                          |   | RG 1 | BL-1 |   |   |   |   |
| 22. | <i>Escherichia coli</i> O157:H7                   | ATCC           | Humans, animals                          |   | RG 2 | BL-2 |   | X |   |   |
| 23. | <i>Klebsiella oxytoca</i>                         | ATCC           | Humans                                   |   | RG 2 | BL-2 | X |   | X | X |
| 24. | <i>Klebsiella pneumoniae</i>                      | ATCC           | Humans                                   |   | RG 2 | BL-2 | X |   | X | X |
| 25. | <i>Morganella morganii</i>                        | Hospital lab   | Humans                                   |   | RG 2 | BL-2 | X |   |   | X |
| 26. | <i>Ochrobactrum anthropic</i>                     | ATCC           |                                          |   | RG 1 | BL-1 |   |   |   |   |
| 27. | <i>Proteus mirabilis</i>                          | ATCC           | Humans                                   |   | RG 2 | BL-2 | X |   |   | X |
| 28. | <i>Proteus vulgaris</i>                           | ATCC           | Humans                                   |   | RG 2 | BL-2 | X |   |   | X |
| 29. | <i>Providencia rettgeri</i>                       | Hospital lab   | Humans                                   |   | RG 2 | BL-2 | X |   |   | X |
| 30. | <i>Pseudomonas aeruginosa</i>                     | ATCC           | Soil, water, plants                      |   | RG 2 | BL-2 | X | X | X | X |
| 31. | <i>Serratia marcescens</i>                        | IUSB micro lab |                                          |   | RG 1 | BL-1 |   |   |   |   |
| 32. | <i>Shigella sonnei</i>                            | ATCC           | Humans                                   |   | RG 2 | BL-2 | X | X |   |   |
| 33. | <i>Stenotrophomonas maltophilia</i>               | ATCC           |                                          |   | RG 1 | BL-1 |   |   |   |   |
| 34. | <i>Campylobacter jejuni</i>                       | ATCC           | Poultry, pigs, dogs, cats, birds, humans |   | RG 2 | BL-2 | X | X |   |   |

|     |                                     |      |             |  |      |      |   |   |   |   |
|-----|-------------------------------------|------|-------------|--|------|------|---|---|---|---|
| 35. | <i>Haemophilus parahaemolyticus</i> | ATCC | Humans      |  | RG 2 | BL-2 |   |   | X |   |
| 36. | <i>Haemophilus influenzae</i>       | ATCC | Humans      |  | RG 2 | BL-2 | X |   | X | X |
| 37. | <i>Gardnerella vaginalis</i>        | ATCC | Humans      |  | RG 2 | BL-2 | X |   |   | X |
| 38. | <i>Neisseria gonorrhoeae</i>        | ATCC | Humans      |  | RG 2 | BL-2 | X |   |   | X |
| 39. | <i>Neisseria meningitidis</i>       | ATCC | Humans      |  | RG 2 | BL-2 | X |   | X | X |
| 40. | <i>Bacteroides fragilis</i>         | ATCC | Humans      |  | RG 2 | BL-2 | X |   |   | X |
| 41. | <i>Clostridium perfringens</i>      | ATCC | Environment |  | RG 2 | BL-2 | X | X |   | X |
| 42. | <i>Candida albicans</i>             | ATCC |             |  | RG 2 | BL-2 | X |   |   | X |
| 43. | <i>Candida glabrata</i>             | ATCC |             |  | RG 1 | BL-1 |   |   |   |   |
| 44. | <i>Candida parapsilosis</i>         | ATCC |             |  | RG 1 | BL-1 |   |   |   |   |
| 45. | <i>Issatchenkia orientalis</i>      | ATCC |             |  | RG 1 | BL-1 |   |   |   |   |

## Laboratory Emergency Guidelines

Guidelines associated exposure and exposure mitigation related to potentially biological hazards are derived from the IU Biosafety Manual section 3:

[https://protect.iu.edu/doc/environmental-health/biosafety\\_manual\\_program\\_elements.pdf](https://protect.iu.edu/doc/environmental-health/biosafety_manual_program_elements.pdf)

A spill kit is located in the lab and contains written directions regarding clean-up in the case of a spill. The spill Clean-up guidelines provided in the IU biosafety Manual are replicated below with modifications for student use.

### Spill Clean – Up Guidelines

- Perform all clean-up with the guidance of your course instructor.
- Wear gloves, protective eyewear and a lab coat.
- Use forceps or other mechanical means to pick up broken glass and discard into sharps container.
- Cover spilled material with paper towels.
- Add diluted disinfectant in sufficient quantity to ensure effective microbial inactivation, let sit 15 minutes.
- Dispose of towels in waste container.
- Wipe spill area with diluted disinfectant. Discard of clean-up materials in waste container.
- Wash hands with soap and water when finished.
- Report all spills to your instructor, who will notify EHS Biosafety.
- If injury has occurred involving blood, or a BSL-1/BSL-2 organism complete an Occupational Injury/Illness Report and seek medical evaluation.

### Spills involving large quantities of BSL-2 Material require additional precautions.

- Keep other students/workers out of the area.
- Post warning signs in needed
- Remove contaminated clothing and put in biohazard bag for later decontamination.
- Wash hands and any exposed skin and inform instructor who will contact EHS Biosafety for assistance.

Please refer to the IU Safety Manual for safe clean-up practices involving other materials not covered here.

### Injury Involving Biological Materials Guidelines

The official IU guidelines indicate that ‘any individual who receives exposure or potential exposure will be offered a medical consultation and advising of available treatments by the Designated Medical Service provide for your respective campus.’ For IU South Bend, that provider is US HealthWorks, formerly known as Wipperman Occupational Health.

### US HealthWorks

19567 Cleveland Road  
South Bend, IN 46637  
574-277-7600

Monday - Friday: 8am\* - 4:30pm

\*open at 9am on 2nd Wednesday of the month

Exposure is defined as:

- Contact with non-intact skin such as cuts, rashes, or abrasions
- Contact with mucosal membranes-eyes, nose, and mouth
- Sharps puncturing or cutting the skin

Guidelines for handling an exposure incident:

- If immediate threat to life call 911; otherwise
- Make the site bleed
- Wash the exposed area for 15 minutes
- Report the incident to your work supervisor immediately
- Notify the EHS Biosafety for your respective campus of the exposure
- Follow campus specific procedures to fill out an Occupational Injury/Illness Report to initiate medical consultation and treatment by the Designated Medical Service Provider for your respective campus



## **Clinical Facility Safety Guidelines**

All students enrolled in the CLS program will be required to complete rotations at one or more clinical site. While on location, students are expected to act as representatives of IU. In addition to following the general guidelines established by the College and documented within this and prior chapters, students will be required to follow the clinical safety and risk mitigation policies and procedures established at their clinical sites while on location there.

In accordance with IU's standard affiliation agreements with clinical sites, the College is required to provide 'documentation of immunity to communicable/infectious diseases, immunization for seasonal influenza, screening for tuberculosis,' and verification of any pertinent clinical certifications or licenses. These documents may be requested by the facilities for review and students must sign a release of information form allowing for the release of this information.

In addition, students will be required to have and maintain current CPR certification and have been previously trained in compliance with OSHA universal precautions and Bloodborne Pathogen Standards.

The facility will provide 'emergency care to students, at the students' expense, for work-related illnesses and accidents, occurring while the student is in training at the Facility.' The facility will also provide personal protective equipment (PPE) as required by OSHA Bloodborne Pathogen Standard. Additionally, drug testing and criminal background testing; described in earlier, and are required to ensure the safety of patients, other students, and employees within the clinical site.

In most instances the clinical site will require a review and acknowledgement of understanding of their specific safety guidelines before training can begin. In many facilities a tour of the safety features is provided as part of the course. For example at South Bend Medical Foundation you will be expected to know where PPE is stored and where safety devices such as the fire extinguishers, fire exit plan, eyewash stations, safety showers, emergency spill kits, biosafety hoods, first aid kits, and MSDS sheets are located. Students must take the tour and pass a safety quiz prior to starting work in their microbiology lab.

Safety mandates are site specific and may vary from those listed above and students should become acquainted with all safety guidelines in place at their rotation site.

## **HIPPA Compliance**

Both the College and Clinical Facility must comply with all federal and state laws regarding privacy, security and electronic transaction of patient records, including but not limited to those regulations

outlined in Title II, Subtitle F of the Health Insurance Portability and Accountability Act (HIPAA). Students, for this purpose only, are defined as members of the Clinical Site's workforce and are obligated under the law to protect the health information of patients as proscribed by HIPAA.