

SPECIALIST IN BLOOD BANK TECHNOLOGY / TRANSFUSION MEDICINE PROGRAM

PROGRAM POLICIES AND PROCEDURES

The Specialist in Blood Bank Technology / Transfusion Medicine Program is a 12-month online learning program, generally running from early May through the end of April. It is designed to prepare students to assume advanced positions as technical specialists in the field of immunohematology and transfusion medicine.

Our program goal: To prepare competent Specialists in Blood Bank Technology / Transfusion Medicine in the cognitive, psychomotor, and affective learning domains.

Our objectives are:

1. Develop technical and supervisory competencies in immunohematology, blood component manufacturing, and transfusion medicine.
2. Develop Medical Laboratory Scientist to function as administrators, leaders, mentors, researchers, or technical consultants.
3. At the conclusion of the program, the student should be able to work as part of the health care team in providing state-of-the-art health services to patients.

Our program is accredited by the Commission on the Accreditation of Allied Health Education Programs (CAAHEP) to prepare participants for the Specialist in Blood Banking (SBB) exam provided by the American Society of Clinical Pathologists – Board of Certification (ASCP-BOC).

CAAHEP: 727-210-2350
www.caahep.org

Recruitment:

Students can be recruited by the placement of advertisement in professional journals and newsletters and through internet searches reaching the SBB program information on the BioBridge Global webpage.

Requirements for Admission:

Prospective candidates for admission must meet the following requirements:

Baccalaureate degree from a regionally accredited college/university with a major in biology, chemistry or clinical laboratory sciences, including having a minimum of two years post-baccalaureate full-time experience in a hospital Transfusion Service, Blood Donor Service, or an Immunohematology Reference Laboratory (IRL).

Questions may be addressed to:

Education Coordinator: 210-731-5516
Program Director: 210-358-2810
www.biobridgeglobal.org/SBB

Foreign Degree Applicants must meet the requirements above and:

1. Have an evaluation of their transcript of credits from:

International Education Research Foundation, Inc.
Box 66940,
Los Angeles, CA 90066
www.ierf.org

NOTE: Several other agencies provide evaluation services. Contact the Education Coordinator if another service is used.

2. Professional experience in Blood Banking acceptable to the Medical Director. Applicants certified with ASCP, AMT or other certification agencies in the appropriate field will be given priority in the selection process over uncertified applicants.
3. Applicants from countries where English is not the native language are also required to submit scores on the Test of English as a Foreign Language (TOEFL). A minimum of 55 is required.

Prospective students must forward:

1. Completed SBB/TM Application Form
2. Official college/university transcripts.
3. Photocopy of baccalaureate degree
4. Three letters of reference mailed to the education coordinator

Prospective student's mentor must forward:

1. Application Reference Form
2. SBB/TM Student Mentoring Agreement

This program will accept applicants during the time period of November 01 through mid-January. Deadline for prospective students to turn in all completed forms and application is usually January 15. The review of completed requirements will occur during the period of mid-January through the beginning of March. Selection of the student(s) will be made late March. Students accepted for the program begins study approximately the **first** week of May.

Interview Process:

An admission interview may be conducted upon receipt and review of all application documentation requirements. If required, the interview will usually take place sometime in March, and may include all or some of the Admissions Committee.

Admissions Committee:

Samantha Gomez Ngamsuntikul, MD, Program Medical Director (BBG)
Ronny A. Fryar, MS, MT(ASCP)SBB Program Director (UH)
Jose Quesada, MS, MT(ASCP)SBB Program Education Coordinator (BBG)
Leslie Greebon, MD, Medical Director, Transfusion Medicine Services (UH)

Evaluation of Applicant:

Prospective students are evaluated on:

- Previous experience
- Education and training
- Professionalism
- References
- Career goals
- Though not required, certification by ASCP, AMT or other certification agencies will also be evaluated.

Selection:

By late-March, two to five students will be selected for the upcoming class. The Education Coordinator will calculate:

1. The results of the interviews with the admission committee
2. Student's academic standing using GPA
3. Experience
4. The results of the professional references submitted.

The Medical Director and/or Program Director will review the final scores. In the case of a tie, priority will be given to Bexar County and Texas residents. The entire Admission Committee may render final selection decision if deemed appropriate by the Medical and Program Director. The applicant will be notified by mail or email of acceptance. Upon notification, written notice of acceptance by the student must be received within 14 days. Send any correspondence to the Education Coordinator for review and file.

Equal Opportunity:

BioBridge Global and University Health believe in the principles and practice of Equal Employment Opportunity. We adhere to the letter and spirit of applicable federal and state laws prohibiting discrimination on the basis of race, color, creed, religion, national origin, sex, age or handicap in student selection.

SBB Certification Eligibility:

The program is accredited by the Commission on the Accreditation of Allied Health Education Programs (CAAHEP) to prepare participants for the Specialist in Blood Banking (SBB) exam provided by the American Society of Clinical Pathologists Board of Certification (ASCP-BOC). Completion of this program fulfills the ASCP Route 1 criteria for application to sit for the SBB exam.

Credits and Advanced Placement:

The program does not provide advanced placement or credits for experiential learning. Upon successful completion of the program, students are awarded a certificate of completion. ***The program does not award college credits.***

Tuition: \$6,000.00 for the yearlong program.

Payments can be made in full at the beginning of the program, or half can be paid at the beginning with the remaining half due at the beginning of November.

Should the student have to withdraw from the program for hardship or other reasons, refunds will be considered on a case-by-case basis.

Books:

The program will provide students with a few basic textbooks such as the ***AABB Technical Manual*** and the ***Standards for Blood Banks and Transfusion Services***. The program also provides student access to online texts and other references. Additional texts and reference books are the responsibility of the student to purchase.

Student Health:

The SBB students are not covered by a health insurance program. Students are responsible for their own health coverage. Clinical rotation sites are required to provide PPE for any tasks requiring such.

Course of Study (curriculum):

Course work is online and students work remotely. Students are required to have their own computer and internet access. All course material to include objectives, PowerPoint presentations and videos (lectures), homework, quizzes and exams will be provided through the UTMB Blackboard Learning Management System. A total of 13 credit hours will be awarded upon successful completion of the program. The following courses will be covered during the program year:

- I. Blood Bank Laboratory Operations (2 credit hours)
 - a. Laboratory Math
 - b. Education
 - c. Ethics in Healthcare
 - d. Legal Aspects of Blood Bank
 - e. Laboratory Safety
 - f. Disaster Planning in Transfusion Services
 - g. Laboratory Management
 - h. Laboratory Finance
 - i. Laboratory Information Systems
 - j. Human Resources in the Laboratory
 - k. Quality Management in Transfusion Services
- II. Human Blood Groups I (2 credit hours)
 - a. Immune Response
 - b. Immunoglobulins
 - c. Complement
 - d. Monoclonal Antibodies and AHG
 - e. Antigen-Antibody Reactions and Potentiators
 - f. Nomenclature
 - g. Mechanisms of Genetic Control
 - h. Family and Population Genetics
 - i. Membrane Biochemistry
 - j. ABO: History and Genetics
 - k. ABO: Biochemistry
 - l. ABO: Typing Discrepancies
 - m. Lewis and Secretor Systems
 - n. P1Pk, GLOB Systems with GLOB Collection
 - o. li and Pr-Sp System
- III. Human Blood Groups II (2 credit hours)
 - a. Rh: History, Genetics, Nomenclature, RHD and RHCE Antigens/Antibodies
 - b. Rh: Suppressors, Deletions, Null Phenotype
 - c. RH: Other Antigens, RHAG and LW Blood Group

- d. MNSs Antigens and Antibodies
- e. MNSs Biochemistry and Ena
- f. Kell Blood Group System
- g. Kidd Blood Group System
- h. Duffy Blood Group System
- i. Lutheran, Colton and Xg Blood Groups
- j. Miscellaneous Blood Groups
- k. Special Techniques
- l. Polyagglutination

IV. Advanced Immunohematology I (2 credit hours)

- a. Pre-transfusion Testing
- b. American Rare Donor Program (ARDP)
- c. Blood Administration
- d. Transfusion Therapy – Red Blood Cells and Plasma Products
- e. Special Transfusion Situations
- f. Platelets and Granulocytes Testing and Transfusion Therapy
- g. Therapeutic Apheresis
- h. Oxygen Therapeutics
- i. Intraoperative Autologous Salvage
- j. Adverse Effects of Transfusions – Hemolytic and Nonhemolytic
- k. Patient Blood Management (PBM)

V. Advanced Immunohematology II (2 credit hours)

- a. Donor Recruitment
- b. Donor Selection, Collection and Donor Care
- c. Donor Apheresis
- d. Anticoagulants and Preservative Solutions
- e. Component Preparation
- f. Frozen RBCs
- g. Donor Testing Introduction
- h. Transfusion Transmitted Disease Testing
- i. Emerging Transfusion Transmitted Disease Testing
- j. Transfusion Transmitted Diseases – Confirmatory Testing
- k. Lot Release – Labeling – Shipping – Lookback Investigations
- l. Donor Center Quality Assurance & cGMPs

VI. Advanced Transfusion Medicine Principles (3 credit hours)

- a. Serological Aspects of HDFN
- b. Clinical Aspects of HDFN
- c. Rh Immune Globulin
- d. Warm Autoimmune Hemolytic Anemias
- e. Cold Autoimmune Hemolytic Anemias
- f. DAT, Adsorptions, Elutions
- g. Red Cell Metabolism – ABC Enzyme Deficiencies

- h. Hemoglobin and Hemoglobinopathies
- i. Red Cell Disorders
- j. Hemostasis and Transfusion Requirements
- k. HLA – Relationship Testing
- l. HPCs – Tissue and Organ Transplant
- m. GVHD and Radiation Safety

NOTE: The Biobridge Global – University Health SBBT/TM program is not collegiate accredited. Successful completion of this program qualifies students to apply for the UTMB MSTM (Master’s in Transfusion Medicine) Program. At that time, acceptable grades can have graduate-level college credits awarded for the SBB curriculum.

Course Homework, Quizzes and Examinations:

Courses include homework, quizzes and examinations. Calendars with specific due dates will be provided to the student throughout the program year. A student must maintain an 80% or greater within each course in order to graduate. Grades are posted in the Grade Center of the Blackboard Learning Management System. Students are allowed to maintain access to the course material through the end of August following the completion of the program as long as the student keeps their UTMB account active.

A student scoring less than 80%, in any particular course will be counseled by the Education Coordinator to determine the cause of the poor performance and any corrective action(s). Repeated failure may result in the student being dismissed from the program.

Deadlines for homework, quizzes, exams and other requirements are expected to be met. Incomplete work will result in the student being counseled by the Education Coordinator to determine cause and if any corrective action can be identified. Failure to makeup incomplete work will result in the student being dismissed from the program.

Student Grievance/Appeal:

A student may appeal a decision of being dismissed from the program. The student should submit the appeal in writing to the Program Director within 3 days. The student must set up an appointment with the Program Director within one week after presentation of the written appeal to discuss the problem. The Program Director's responsibilities include:

1. Investigate the facts and examine the evidence,
2. Initiate discussion with student and instructor (if applicable), Education Coordinator or Medical Director to clarify areas where misunderstanding exists due to failure by either party to properly clarify intent,
3. Settle complaint at this level, if possible.

The Program Director will document all steps taken to seek a resolution. If a solution is not achieved with the Program Director, the student may present a written request to the Program Director requesting a convening of the Academic Appeal Board. The academic appeal board will consist of the following members:

- A member of full time staff/faculty of UH who is not part of the Program committee
- A member of full time staff/faculty of BBG who is not part of the Program committee
- A faculty member in an allied health field
- A former SBB student (not necessarily a present employee of UH/BBG).

If any of the persons on the board are involved in the appeal an alternate will be selected. The Program Director will forward the student's written appeal and documentation of steps taken to seek resolution to the Chairman of the Academic Appeal Board. The chairman of the Academic Appeal Board will set a time for a hearing, which will take place within one week after receiving notification of the appeal. All concerned parties may be present at the board hearing to discuss the appeal. The chairman of the board will have one week to render a decision to the student and program director. The decision is final and may not be appealed. In the case of a tie, the program Medical Director will provide the tie breaking vote.

Mentorship:

Each student must have an individual who is willing and able to serve as a mentor. The mentor plays a critical role in the success of the student by providing counseling and guidance to the student.

Mentors must meet one of the following requirements:

- MT/MLS(ASCP)SBB or SBB(ASCP) or equivalent with a minimum of two (2) years' experience in a Transfusion Service, Blood Donor Service or Immunohematology Reference Laboratory (IRL).
- MT/MLS(ASCP), BB(ASCP) or equivalent with a minimum of three (3) years' experience in a Transfusion Service, Blood Donor Service or Immunohematology Reference Laboratory (IRL).
- Pathologist who is board certified in Transfusion Medicine or serves as a Director of a Transfusion Service, Blood Donor Service or Immunohematology Reference Laboratory (IRL).

* Other qualifications must be approved by the Medical Director and Program Director

Responsibilities of the mentor include:

- Assisting students with research projects
- Evaluating student presentations
- Assisting in finding rotation facilities
- Ensuring that clinical instructors are qualified to oversee rotations
- Mentoring during a rotation

Clinical Rotations:

The goal of each rotation is to provide the student sufficient discussion, observation time, and in some case, hands-on time to where the student is comfortable with the theories, processes and procedures conducted in each rotation sites. Clinical rotations are meant to enhance the didactic portion of the student’s learning.

Instructors must be qualified by maintaining relevant certifications, licensure or equivalent experience. They should have a minimum of one year of experience in their respective area and can show involvement in continuing education programs.

Each clinical rotation site will provide basic laboratory safety instruction and Personal Protective Equipment, as applicable. If needed, the student will also be provided supplies required for clinical rotation and learning.

The student will be required to complete a Rotation Checklist during the rotation period. The checklist will be maintained by the student. The rotation instructor will be required to sign off on the checklist to indicate that the student accomplished all of the goals stated. This will include both on-site and on-line students.

If the checklist is not completed by the end of the rotation or designated due date, the student will be required to complete the requirements on their own time as long as there is adequate supervision.

The instructor will also complete the rotation evaluation sheet at the end of the rotation.

Students are encouraged not to delay finding rotation sites and setting rotation dates. Do not wait until the last few months of the program to begin working on completing the rotations.

Clinical Rotation Plan:

Clinical Rotation	Location	Length of Rotation
Immunohematology Reference Lab / Molecular	BioBridge Global	3-4 days
Donor Room/Apheresis/Mobile Drive/Recruitment	BioBridge Global	3 days
Component Preparation & Hospital Services	BioBridge Global	2 days
Donor Testing	BioBridge Global	1 day

Quality & Compliance	BioBridge Global	4 hours
IRL Management	BioBridge Global	4 hours
Cord Blood/Tissue Banking	BioBridge Global	4 hours
NMDP/Stem Cell	BioBridge Global	4 hours
Medical Director / Pathology/Management	University Hospital	4 hours
Transfusion Services	University Hospital	3 – 4 days
Coagulation	University Hospital	1 day
Intraoperative Salvage Program	University Hospital	1 day
Apheresis (Therapeutic)	University Hospital	1 day
HLA	University Hospital	1 day

If the student chooses to complete any rotation at any location other than BioBridge Global or University Hospital, then a **Student Clinical Rotation – Memorandum of Understanding** must be completed with the selected location.

Student Research Project:

The student will be required to complete a Research Project. The project should demonstrate the student's ability to collect, analyze, and report pertinent material on a clinical or research problem.

Students are encouraged to begin thinking about their research project at the beginning of the program. Research proposals are generally due at the end of the first month of the program. Throughout the program year, there will be other key milestones that will be critical in completing the project on time.

At the end of the program, students will have completed their chosen project and report. The report will be formatted as a published paper would be:

- I. Introduction
- II. Materials and Methods
- III. Results
- IV. Discussion
- V. Conclusion
- VI. References

The faculty will review the report. The student will give an oral presentation of their project to the faculty of the program.

Journal Presentation:

Each student will present a discussion and evaluation of a recently published

paper/article in the field of immunohematology. Examples of professional journals include ***Transfusion***, ***Vox Sanguinis***, the ***Journal of Immunology***, the ***Journal of the American Medical Association*** and the ***New England Journal of Medicine***.

Comprehensive Final Exam:

A comprehensive Final Exam will be given to the student during the final week of the program. In order to graduate, the student must have an 80% on the final exam. The final exam will not be given until all aspects of the program mentioned above are satisfactorily completed.

Student Work Policy:

Most students enrolled in the 12-month on-line distant education program work either part-time or full-time. Students are expected to be able to prioritize their time to keep up with work requirements, and the educational requirements of this program. Deadlines for homework, quizzes, exams and other requirements are expected to be met.

Notice to all UH and BBG Parties:

All or any changes to the SBB Program Policies and/or Procedures that will affect the student or the program must be provided and discussed during the regularly schedule program meeting.

There must be sufficient appointed resources with necessary qualifications (to include faculty, clerical and supported staff, curriculum, finances, offices, classroom laboratory and, ancillary student facilities; clinical affiliates; equipment; supplies; computer resources; instructional reference materials, and faculty/staff continuing education).

The SBB program Advisory Committee will meet at least annually to assess its goals and learning objectives. If the assessment does not meet expectation, then the goals and learning domains must be updated. The committee will also discuss and revise learning objectives, discuss students' performance, and resolve issues or problems to include the review of the MOU agreement.

All student Clinical Rotations sites must be available to the representative of the CAAHEP accreditation for the purpose of the program's continued accreditation.