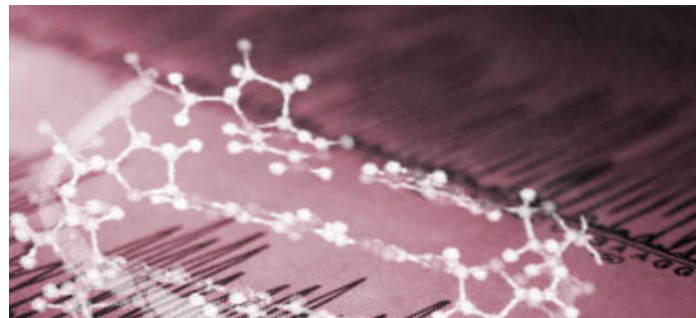
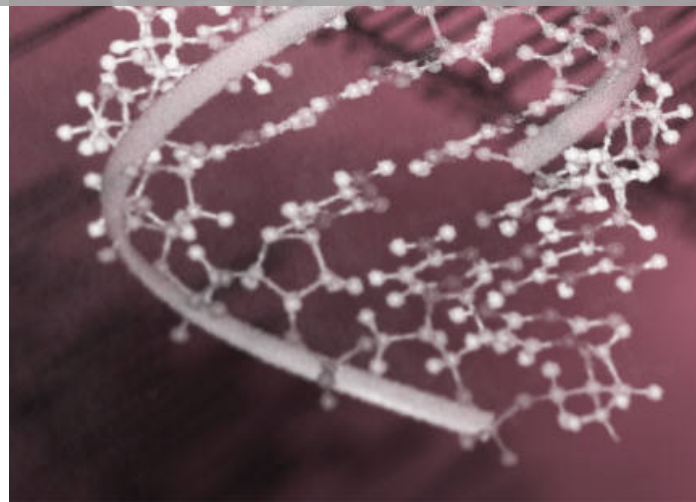


Effective 4/1/2017



CARRINGTON
COLLEGE

MEDICAL LABORATORY TECHNICIAN
STUDENT HANDBOOK



CARRINGTON COLLEGE®

Celebrating **50** Years

Table of Contents

Welcome	2
Mission Statements	3
<i>ASCLS Code of Ethics</i>	3
Goals	4
<i>MLT Program Goals</i>	4
About the Medical Laboratory Technician Program.....	5
Essential Functions.....	5
Resources.....	6
The Curriculum.....	7
<i>Attendance</i>	7
<i>Student Assessment and Grading Policies</i>	7
Clinical Affiliations.....	7
Certification.....	7
ASCP Board of Certification.....	8
Infectious Disease Management	9
UNIVERSAL PRECAUTIONS/BODILY FLUIDS	9
Infectious Disease Disclaimer	10
MLT Program Statement of Acknowledgement	11
MLT Program Statement of Release	12
<i>College</i>	12
<i>Clinical Agency</i>	12
Consent to Participate in Phlebotomy Procedures.....	13

Welcome

Welcome to the Carrington College Medical Laboratory Technician Associate of Science Degree program! The field of medical laboratory science can be traced back to 300 BC and Hippocrates¹ with such basic steps as taste testing urine samples for the presence of sugar. Of course we no longer need to use taste to diagnose diabetes; instead the field has rapidly expanded and progressed with sophisticated methods of analysis including advanced molecular genetics, new technologies and research.

The world of forensic science has entered everyone's household through television series such as CSI, NCIS and Criminal Minds. Although medical laboratory science is less involved in solving crimes as it is in diagnosing and monitoring the status of health and disease, many of the techniques used in a medical laboratory are those used in forensics. As such, working in the field of laboratory medicine requires an understanding of basic and complex sciences with a strong foundation of mathematics to solve complicated formulas. In addition laboratory technicians must be committed to accuracy and precision of the work being performed, and always be aware of the impact of their work on the patients or clients who are being served.

Laboratory technicians interact with many agents in the health care field from physicians, nurses, and others serving as support to the system. Professional, clear oral and written communication skills, problem solving abilities and effectively working with a team are all components of a successful laboratory technician

The faculty and staff of Carrington College welcome you and are here to support you in your academic endeavors. As you enter your college career, please be aware of the resources that are available to you through your Program Director, faculty, Student Services staff and others. Please don't hesitate to ask questions, and to communicate your needs. The most successful students are those who are willing to work closely with others in the college community. We are here for you!

Best wishes for a successful academic career,

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1. Berger D. A brief history of medical diagnosis and the birth of the clinical laboratory. part 1: ancient times through the 19th century. *Med Lab Obs.* 1999. Jul; 31(7):28–30,32,. 34–40. [[PubMed](#)]

Mission Statements

The mission of Carrington College is to provide learning opportunities to individuals in the communities it serves through postsecondary programs of study, which include general studies and professional preparation in career focused majors.

Supporting that mission the Carrington College Medical Laboratory Technician program's mission is to

“...provide educational opportunities that prepare graduates of the Medical Laboratory Technician program with the knowledge and skills that will enable them to be successful in entry level positions in a variety of laboratory settings. The program curriculum reflects currency in the field meeting standards identified by professional agencies such as the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS), the American Society for Clinical Laboratory Sciences (ASCLS) and the American Society for Clinical Pathology (ASCP). The curriculum is based upon identified and verified roles and responsibilities of entry-level practitioners and provides opportunities for integration and application of learned concepts, attitudes, values and skills in real life learning experiences within clinical laboratories.”

The program supports and adheres to the Code of Ethics put forth by American Society for Clinical Laboratory Science:

ASCLS Code of Ethics

I. Duty to the Patient

Clinical laboratory professionals are accountable for the quality and integrity of the laboratory services they provide. This obligation includes maintaining individual competence in judgment and performance and striving to safeguard the patient from incompetent or illegal practice by others.

Clinical laboratory professionals maintain high standards of practice. They exercise sound judgment in establishing, performing and evaluating laboratory testing.

Clinical laboratory professionals maintain strict confidentiality of patient information and test results. They safeguard the dignity and privacy of patients and provide accurate information to other health care professionals about the services they provide.

II. Duty to Colleagues and the Profession

Clinical laboratory professionals uphold and maintain the dignity and respect of our profession and strive to maintain a reputation of honesty, integrity and reliability. They contribute to the advancement of the profession by improving the body of knowledge, adopting scientific advances that benefit the patient, maintaining high standards of practice and education, and seeking fair socioeconomic working conditions for members of the profession.

Clinical laboratory professionals actively strive to establish cooperative and respectful working relationships with other health care professionals with the primary objective of ensuring a high standard of care for the patients they serve.

III. Duty to Society

As practitioners of an autonomous profession, clinical laboratory professionals have the responsibility to contribute from their sphere of professional competence to the general wellbeing of the community.

Clinical laboratory professionals comply with relevant laws and regulations pertaining to the practice of clinical laboratory science and actively seek, within the dictates of their consciences, to change those which do not meet the high standards of care and practice to which the profession is committed.

ASCLS Pledge to the Profession

“As a clinical laboratory professional, I strive to:

- Maintain and promote standards of excellence in performing and advancing the art and science of my profession,
- Preserve the dignity and privacy of others,
- Uphold and maintain the dignity and respect of our profession ,
- Seek to establish cooperative and respectful working relationships with other health professionals,
- Contribute to the general well-being of the community.

I will actively demonstrate my commitment to these responsibilities throughout my professional life.” (<http://www.ascls.org/about-us/code-of-ethics>)

Goals

MLT Program Goals

- Provide a structured curriculum composed of general education, basic science, math and professional courses with clearly written course syllabi; to include course goals, student learning outcomes and objectives.
- Employ learning experiences in the proper sequence, by utilizing appropriate instructional materials, presentations, discussions, demonstrations, service work and laboratory activities.
- Arrange for similar clinical experiences for all students in accredited laboratories.
- Establish a variety of evaluation tools, engaging cognitive, psychomotor and affective domains.
- Prepare students for clinical experience by having the professional curriculum reflect all major subject areas.
- Graduate 70% of students who begin the last half of the program.
- Have a pass rate of 75% over a three year period for students who sit for the Board of Certification examination for the first time during their first year following graduation.
- Successfully prepare students for the workplace so that over a three year continuous period an average of 70% of the graduates are employed in a related field or are continuing their education.

Student Learning Outcomes

Upon completion of the Medical Laboratory Technician program, graduates will be able to:

- Demonstrate the skills and knowledge to conduct laboratory tests that aid in the detection, diagnosis and treatment of disease
- Demonstrate the ability to apply critical thinking, work collaboratively, communicate clearly and act professionally

About the Medical Laboratory Technician Program

Essential Functions

The MLT program at Carrington College consists of six consecutive semesters of sixteen weeks each. The program builds from foundational to complex concepts that will provide the student with the theoretical knowledge and technical skills required of an entry level medical laboratory technician. For students to be successful in the field of laboratory science essential functions have been identified. It is our obligation to inform prospective students of the essential functions demanded by the occupation. The non-academic abilities or skills that have been determined to be necessary for the effective performance of a medical laboratory technician include:

- Safely and accurately perform fine motor skills necessary for functions such as blood collection, pipetting, operating instruments and other tasks;
- Possess coordination of eye/hand and eye/hand/foot;
- Move freely within the assigned laboratory work areas in order to access equipment, instruments and patients or clients;
- Possess shoulder, arm and neck movement, have the ability to move freely about the facility, have the ability to bend and have the ability to lift and move objects weighing up to 25 pounds;
- Be able to sit and/or stand for long periods of time;
- Possess a sense of touch and temperature discrimination;
- Possess natural or corrected sight that provides the ability to identify and differentiate sizes, shapes and colors macroscopically and microscopically and provides depth perception and the ability to visualize and discriminate objects of two or three dimensions;
- Reason, comprehend, interpret and follow abstract and complex oral, written, diagrammatic or step by step instructions
- Accurately perform recognized functions in a fast paced and stressful environment, including professionally responding to emergencies, working with biological specimens and people who are ill and/or have experienced trauma;
- Communicate with clarity and effectively in English through oral, written or alternate means, to receive and transmit information;
- Act with compassion, integrity and follow ethical standards;

- Perform simple and complex mathematic procedures;
- Work indoors in confined spaces around moving instrumentation;
- Tolerate exposure to dust, fumes, smoke, gases, odors, mists, solvents, grease, oils and other chemicals;
- Tolerate exposure to noise and vibrations;
- Tolerate minimal levels that are within safety standards of radiation or electrical energy;
- Work effectively independently as well as in teams; and
- Use technology efficiently and accurately in the workplace.

Students will be required to use the following personal protective equipment in the student laboratories and in the clinical settings:

- Safety glasses
- Face masks or shields
- Impermeable lab coats
- Protective gloves

Individuals who are unsure if they are capable of performing any of these identified functions should schedule an appointment with the Program Director to discuss options.

NOTE: Prior to clinical rotations, students must submit to drug screening and background checks, the results of which could affect eligibility to participate in clinical rotations. If you have any questions regarding drug screening and background checks, please see the Program Director.

In addition, CPR certification and proof of immunity to infectious disease are required of all students before beginning the clinical component of the program. Students may also need to meet additional facility requirements such as, but not limited to, CPR certification, online training in HIPAA, safety and compliance and a physical exam. Cost of these requirements may not be included in student tuition/fees.

Resources

Most students at Carrington College are busy juggling the rest of their lives with school. Many have jobs, children, spouses, and/or parents to care for. The Academic Catalog and Carrington College Student Handbook provide information regarding key resources available to you including the ASPIRE program. Carrington College also offers academic assistance in the Student Success Center. The staff at the Student Success Center tutor all general education and some programmatic subjects as well as help students understand their learning styles to help increase their success at Carrington. They are available to answer any questions you may have regarding your courses or any other matters related to academics.

Your best resources for academic/course related issues would be the faculty of the course. If you are unable to reach them, or find you need additional support, your program director Kara Hansen-Suchy can be reached at khansen-suchy@carrington.edu, 602-393-5988.

Carrington College has a small library located in the Student Success Center, and several professional

publications are available in that space. The MLT program has several texts available for student use as needed.

The Curriculum

Attendance

Students are expected to follow the established curriculum. This means that students must plan in advance their time and resources to enable them to successfully meet the expectations of the program and the College. Carrington College follows a strict attendance policy that is described in the Academic Catalog.

As regular attendance represents an important professional component, faculty in the Medical Laboratory Technician program support and closely follow the established attendance policies of the college.

Student Assessment and Grading Policies

The MLT program follows Carrington College standard practices of assessment and grading.

Clinical Affiliations

All students enrolled in the MLT program will participate in a clinical experience at an accredited laboratory or laboratories further developing skills in the specific areas of the clinical laboratory. Students are advised that these clinical experiences are selected by the Clinical Coordinator and may be subject to availability. In the unlikely event that a student should miss clinical hours, the student's successful completion of clinical education may be negatively impacted. The clinical experiences are an educational component of the program. As such, students are not employees of the clinical facilities and are not to be substituted for staff.

Students must be able to provide their own personal transportation to all clinical experiences and plan in advance for these to be held during weekdays. Students must have proof of immunity to infectious disease and CPR training before clinical placement. **All records should be presented to the MLT Program Director at the beginning of their fifth term.** Students are advised to keep copies of all documents submitted.

Certification

Students are *strongly* encouraged to sit for the American Medical Technologist (AMT) certification examination at the culmination of the MLT program. Carrington College MLT graduates are eligible to sit for the AMT certification examination through Route 1.

“Applicant shall meet one of the following eligibility routes:

ROUTE 1 (EDUCATION): Applicant shall possess an associate degree in medical laboratory technology (or equivalent) from a program or institution accredited by a recognized regional or national accreditation agency.

ROUTE 2 (ALTERNATE EDUCATION): Applicant shall have completed at least two years (60 semester hours) of courses in an institution accredited by a recognized regional or national accreditation agency¹, including at least 25 semester hours of coursework across various subjects related to the clinical laboratory sciences, such as courses in chemical or biological science, mathematics and/or computer

science (no more than 6 semester hours of mathematics and/or computer science may be used toward the 25 semester hour requirement) AND shall have completed a minimum of six months of approved clinical laboratory experience

ROUTE 3 (MILITARY): Applicant shall have completed a 50-week US military medical laboratory training program provided that the training credits were earned in, or have been accepted for transfer by, an accredited college or university leading to the award of an appropriate degree.

ROUTE 4 (OTHER RECOGNIZED EXAM): Applicant shall have taken and passed a generalist MLT examination given by another certification organization or state licensure agency, provided that the examination has been approved by the AMT Board of Directors and that the applicant can meet eligibility Routes 1, 2 or 3. Applicant must be currently employed or have recent experience (working three of the last five years) as a medical laboratory technician. No exam is required.”

<http://www.americanmedtech.org/GetCertified/CertificationProcess.aspx>

Once the Carrington College Phoenix East program has earned NAACLS accreditation graduates will be able to sit for the exam below by means of route 1.

ASCP Board of Certification

There are four routes for eligibility as described below.

“To be eligible for this examination category, an applicant must satisfy the requirements of at least one of the following routes:

ROUTE 1: An associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a college/university accredited by a recognized regional or national accreditation agency, AND successful completion of a NAACLS accredited MLT program within the last 5 years; OR

ROUTE 2: An associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a regionally accredited college/university, including 6 semester hours (9 quarter hours) of chemistry and 6 semester hours (9 quarter hours) of biology, AND CLA(ASCP)* certification; OR

ROUTE 3: An associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a regionally accredited college/university, including 6 semester hours (9 quarter hours) of chemistry and 6 semester hours (9 quarter hours) of biology, AND successful completion of a 50 week U.S. military medical laboratory training course *within the last ten years*.**; OR

ROUTE 4: An associate degree or at least 60 semester hours (90 quarter hours) of academic credit from a regionally accredited college/university, including 6 semester hours (9 quarter hours) of chemistry and 6 semester hours (9 quarter hours) of biology, AND three years full time acceptable clinical laboratory experience in Blood Banking, Chemistry, Hematology, Microbiology, Immunology, and Urinalysis/Body Fluids in the U.S., Canada or an accredited laboratory*** within the last ten years.”

<http://www.ascp.org/Board-of-Certification/GetCertified#tabs-1>

Infectious Disease Management

1. All new students entering the MLT program will be educated regarding proper procedures to follow when handling potentially infectious materials and general OSHA safety procedures.
2. All body fluids and kits using human products will be treated as potentially infectious materials.
3. Pipetting by mouth will not be allowed in the laboratory.
4. All blood samples; body fluids and kits are to be disposed of in special containers to be sterilized.
5. All needles and syringes are to be disposed of in a puncture resistant container to be sterilized.
6. Frequent hand washing will be enforced, and is mandatory following each laboratory section.
7. Bench tops and sinks will be cleaned with 10% chlorine bleach following each laboratory exercise.
8. Accidental spills will be cleaned promptly using appropriate safety procedures, and the area then disinfected with 10% chlorine bleach.
9. Gloves (rubber or latex) are mandatory for all laboratories in which biologically hazardous materials are being handled.
10. Faculty will monitor all procedures and manipulations that could create aerosols and droplets and students will be required to wear safety goggles or work behind safety shields.
11. Program faculty will supervise all blood drawing practice sessions.
12. There will be absolutely no eating (including gum chewing), drinking, applying of cosmetics, cell phone use or smoking during student laboratories. No food or drink is allowed in any laboratory where biological samples may be present.
13. All students will be educated about necessary immunizations, included the Hepatitis B vaccine, and will be required to begin the series, verify immunity or sign a waiver stating their decision not to do so.
14. All students will have documented proof of immunity for major communicable diseases as required by the College and clinical assignments prior to beginning their fifth semester of study.

UNIVERSAL PRECAUTIONS/BODILY FLUIDS

The best way to reduce occupational risk of infection is to follow universal precautions. Health care workers (HCWs) must assume all patients are infected with HBV or HIV, thus taking adequate non-discriminatory precautions to protect themselves.

Universal precautions should apply to blood, body fluids containing visible blood, semen, vaginal secretions, tissues, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid.

The Center for Disease Control (CDC) has developed procedures to help health care workers protect themselves from a variety of possible infections, including HBV and HIV. In general, these precautions include the use of an appropriate barrier (gloves, masks, goggles, etc.) to prevent contact with infected body fluids. Additionally, standard sterilization and disinfection measures as well as ineffective waste disposal procedures are to be followed.

In addition to gowns, gloves, and surgical masks, protective eyewear or face shields should be worn where generation of droplets or splashing of body fluids is possible. If the protective barrier becomes torn, it should be replaced immediately or as soon as patient safety permits. In the event of injury to the health care practitioner, the barrier should be removed and the wound treated promptly. Any such injury should also be followed up with an incident report.

Summary of Universal Precautions Recommendations

- Hands should be washed before and after patient contact, and immediately if they become contaminated with blood or other body fluids.
- Gloves should be worn whenever there is a possibility of contact with body fluids.
- Masks should be worn whenever there is a possibility of splashing or splattering of body fluids.
- Gowns should be worn if soiling of exposed skin or clothing is likely.
- During resuscitation procedures, pocket masks or mechanical ventilation devices should be readily available.
- Spill of blood or blood-containing body fluids should be cleaned up using a solution of household bleach (sodium hypochlorite) and water in a 1:100 solution for smooth surfaces and 1:10 for porous surfaces.
- Health care professionals who have open lesions, dermatitis, or other skin irritations should not participate in direct patient care activities or handle contaminated equipment.
- Contaminated needles should never be bent, clipped, or recapped. Immediately after use, contaminated sharp objects should be discarded into a puncture-resistant "Sharps" container designed for this purpose.
- Instruments and other reusable equipment should be cleaned of visible organic material, placed in an impervious container, and returned to central hospital supply or some other designated place for decontamination and reprocessing.
- Instruments and other reusable equipment used in performing invasive procedures should be disinfected and sterilized as follows:
 - Equipment and devices that enter the patient's vascular system or other normally sterile areas of the body should be sterilized before being used for each patient.
 - Equipment and devices that touch intact mucous membranes but do not penetrate the patient's body surfaces should be sterilized when possible to undergo high-level disinfection if they cannot be sterilized before being used for each patient.
 - Equipment and devices that do not touch the patient or that only touch intact skin or the patient need only be cleaned with a detergent or as indicated by the manufacturer.
- Body fluids to which universal precautions apply: blood, serum/plasma, semen, vaginal secretions, cerebrospinal fluid, vitreous fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, and wound exudates.
- Body fluids when blood is visible: sweat, tears, sputum.

Infectious Disease Disclaimer

Students must adhere to prescribed safety measures and follow standard precautions when working with patients, blood and body fluids either in the school laboratory or in the clinical setting. Faculty cannot assume the responsibility for assigning students to work with blood or body fluids that are free from communicable diseases such as HIV or hepatitis. It is the responsibility of the student to work safely and take the proper safety precautions so as not to contract such diseases.

MLT Program Statement of Acknowledgement

I, _____,
(print your full name)

have read and understand the information provided in the *Carrington College Academic Catalog*,
Carrington College Student Handbook and Medical Laboratory Technician Student Handbook.

I acknowledge that I understand the risks involved in the field of laboratory science, and I understand the safety policies and procedures in place and agree to follow the safety related instructions of my program faculty and supervisors. If I have any questions, I agree to consult with my MLT program faculty or MLT Program Director.

Student Signature

Date

This form must be signed and returned to the MLT Program Director before the end of the second week of the first semester.

MLT Program Statement of Release

College

Date _____

I (please print full name) _____, do hereby grant permission to have relevant information released at the discretion of the Program Director to my clinical site educators to enhance my educational experience while enrolled at Carrington College.

Student signature

Clinical Agency

Date _____

I (please print full name) _____, do hereby grant permission to have information regarding my performance during clinical experiences released to the Program Director in order to enhance my educational experience at Carrington College.

Student signature

This form must be signed and returned to the MLT Program Director before the end of the second week of the first semester.

Consent to Participate in Phlebotomy Procedures

As a student of the Carrington College Medical Laboratory Technician program or another Carrington College health care program I understand that collecting and working with blood is an integral part of my program of study. I also understand that the collection of blood through **venipuncture** and **capillary procedures** is a necessary or useful skill for me to master.

In order to provide the greatest opportunity for students to obtain mastery of these techniques I **volunteer** to be a donor of small volumes (not to exceed 15 ml), under controlled and supervised circumstances in the student laboratory. I understand that this is strictly **voluntary and I will not be coerced or forced to be a donor for these procedures.**

I understand that **some risk is involved** in that both venipuncture and capillary puncture procedures are invasive in nature. Potential risks include: **infection, soreness, bruising and bleeding.** For some individuals syncope (fainting) or feeling lightheaded may also be a side effect of the procedure.

I acknowledge that I am **not currently taking any medications or have any known conditions that may leave me immunocompromised or prone to excessive bleeding** causing excessive risks to myself as a result of volunteering to have a venipuncture or a capillary puncture.

I agree to follow all standard operating procedures associated with the process, including applying pressure and keeping the site bandaged for a minimum of two hours following the puncture.

Student signature

Date

This form must be signed and returned to the MLT Program Director prior to volunteering to be a donor for any phlebotomy procedures, including capillary or venipunctures.

Student Hepatitis B Information/Declination Form

RISKS

Individuals who work in health care settings are at risk for contracting blood borne diseases. The Occupational Safety and Health Administration (OSHA) issued a set of regulations designed to protect both patients and health care workers. Specific training will be provided to students as soon as they begin the program in order to minimize the risk.

HEPATITIS B

Hepatitis B is a blood borne viral infection. Most people with Hepatitis B recover completely, but the infection can be fatal and approximately 5-10% of those infected can become chronic carriers of the virus. Most chronic carriers have no symptoms but can continue to transmit the disease to others. Chronic carriers may develop chronic active Hepatitis, cirrhosis and possible liver cancer.

IMMUNIZATION

A vaccine for Hepatitis B has been developed, tested extensively and found to be effective in producing an antibody, and thus protection against Hepatitis B, in 95-96% of health persons. Some persons who have received the vaccine have complained of redness and soreness at the injection site. Other reported side effects have been low grade fever, rash, nausea, joint pain and mild fatigue. Long-term side effects are unknown.

The vaccine is administered in three doses with one month between dose one and two, and six months between dose one and three. The series must be completed in order to be effective. OSHA strongly encourages students to be vaccinated. The vaccine is administered in three doses with one month between dose one and two, and six months between dose one and three. The series must be completed in order to be effective.

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DECLINATION

- I have read the above statements about Hepatitis B and the Hepatitis B vaccine
- I have decided NOT to accept the Hepatitis B vaccine OR I have not completed the series.

Name: _____ Student ID# _____ Please Print

Signed: _____ Date _____
Student Signature

Signed: _____ Date _____
ACCE Signature

Lack of compliance may impact program completion.