

Carolinas College of Health Sciences

**ADDENDUM**

2012-2013 Catalog

Last Update: 2/2013

**Academic Calendar** (page 2) is updated as follows:

Fall 2013 – College closed December 25 (not December 24 & 25)

**Academic Calendar** (page 3) is updated as follows:

The eight lines before the Summer term for both academic years include dates that are incorrect

**Accreditation** (page 5) is updated as follows:

Carolinas College of Health Sciences is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Carolinas College of Health Sciences.

The college is applying for accreditation by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) for the Histotechnology program. Eligibility to take the ASCP certification exam is contingent upon the college achieving “serious applicant status” before graduation.

**Conditional Admission Requirements for Clinical Laboratory Sciences** (page 10) is updated as follows:

The admission criteria for the histotechnology and the medical laboratory science programs are outlined below:

- Official transcripts from all post-secondary institutions attended demonstrating an earned (by program start date) baccalaureate degree in biology, chemistry, or related science field.
- Cumulative GPA of 2.50 or above and science/math GPA of 2.50 or above.
- Official college transcripts must demonstrate completion of the following prerequisite courses with a grade of “C” or above.

*Histotechnology program*

- Minimum of 30 semester credit hours of biology and chemistry by date of application (must include credits in both). Microbiology, cell biology, anatomy and physiology are recommended.
- Three semester hours of college level algebra or higher-level math.
- At the discretion of the program director, biology and chemistry courses may require updating if not completed within five years of the program’s start date.

*Medical Laboratory Science program*

- Minimum of 16 semester credit hours in biology by date of application. Required courses include microbiology, microbiology lab, and immunology to be completed by program start date. Genetics, molecular biology, anatomy and physiology are recommended.
- Minimum of 12 semester credit hours in chemistry by date of application. Required to include organic chemistry or biochemistry to be completed by program start date.
- Minimum of 3 semester credit hours in statistics to be completed by program start date. Physics is recommended.
- Prerequisite courses of microbiology, immunology, and organic chemistry (or biochemistry) must be updated if not completed within five years of program start date.
- Three Carolinas College reference forms. References must be from college instructors, college advisors, or employers. References must be from a person who resides in the United States.
- Interview with college faculty (scheduled with most competitive applicants after submitting application, transcripts, and references).
- Manual dexterity test (administered at time of interview). To be successful, the applicant must complete the manual dexterity test in 60 seconds or less. Applicants will be allowed to take the manual dexterity test once per application cycle.

Applicants with a foreign baccalaureate degree must take 12 semester hours at an accredited U.S. baccalaureate academic institution before application can be considered. The program director will determine acceptable courses. All foreign transcripts must be evaluated by a recognized evaluating agency, which will verify the U.S. baccalaureate degree equivalency.

**Final Admission Requirements** (page 13) is updated as follows:  
Change Medical Laboratory Science to Clinical Laboratory Sciences

Signed criminal background disclosure form (consent form) (non-degree and general studies are exempt from this requirement).

Submit verification of completion of a Nurse Aide I course or an approved equivalency. Verification of clinical experience either during training or in a work environment is required (nursing).

**Essential Functions** (page 15) is updated as follows:  
Clinical Laboratory Sciences: Histotechnology

- Physical abilities sufficient to move from room to room, maneuver in small places, reach and bend, and sit and stand for prolonged periods performing moderately taxing continuous physical work.
- Gross and fine motor abilities sufficient to manipulate, maneuver, adjust and control small objects with coordination, such as tissues, forceps, and scalpels; effectively and efficiently operate laboratory equipment, control and adjust laboratory instruments, manipulate a computer keyboard, and calculate, record and transmit laboratory information.
- Visual abilities sufficient to distinguish color, consistency, depth, and density of biological specimens and reagents, employ a clinical grade microscope to discriminate fine differences in structure and color in microscopic specimens, and read calibration lines on pipettes, laboratory instruments, graphs displayed in print, and on a video monitor.
- Critical thinking abilities sufficient to demonstrate rational judgment, organize tasks and responsibilities, make logical decisions, analyze data and reports, recognize potentially hazardous materials, equipment, and situations and proceed safely, and provide professional and technical services while experiencing the stresses of emergent demands and a distracting environment.
- Communication abilities sufficient to communicate effectively and efficiently in English, read and comprehend technical and professional materials, accurately follow oral and written instructions in performing laboratory tests, communicate with faculty, students, staff, physicians, and other healthcare professionals in oral and written formats, independently prepare research papers and present reports, and take paper, computer, and laboratory practical examinations.
- Professional attitudes sufficient to demonstrate honest, ethical and compassionate behavior, take responsibility for own actions and be forthright about errors or uncertainty, display flexibility, function effectively under stress, adapt to changing environments, possess ability to work with infectious biological specimens and hazardous materials, and function as an active cooperative member of the health care team.

Change: Clinical Laboratory Sciences: Medical Laboratory Science

**Financial Information** (page 17) is updated as follows:  
Remove MLS from Applied Course listing  
Change Histotechnology & Medical Laboratory Science

**Histotechnology** (page 41) and the content that follows is added prior to Medical Laboratory Science:  
In support of the mission of the College, the mission of the School of Clinical Laboratory Sciences' Histotechnology program is to provide quality education to a diverse group of students enabling them to function as competent entry-level histotechnologists and serve in leadership, educational, and technical roles within the profession.

The histotechnology program prepares professionals who are competent to perform a full range of histology laboratory techniques and who possess skills in clinical decision-making, regulatory compliance, education, management, quality assurance, and performance improvement wherever histology laboratory testing is researched, developed, or performed. The curriculum design integrates theoretical concepts with practical laboratory training.

The program consists of seven courses containing didactic lectures and supervised education in the clinical histology laboratory. Areas of study include histotechniques, microtomy, cryotomy, histochemistry, histology, histopathology, and professional issues including education, research design, and management. The courses include didactic lectures, student laboratory training and clinical experience in the histology laboratory of Carolinas Medical Center. The faculty/student ratio is one to four. Upon completion of the program, graduates receive a certificate in Histotechnology. The Carolinas College of Health Sciences Histotechnology program is applying for accreditation by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Eligibility to take the American Society of Clinical Pathology Board of Certification exam will depend on whether or not the program achieves “serious applicant status” before student graduation. Graduation and receipt of certificate is not contingent upon passing a certification or licensure exam.

### **Philosophy**

The histotechnologist must perform duties in an accurate, precise, timely, and responsible manner; advocate the delivery of quality laboratory services in a cost effective manner; work within the boundaries of laws and regulations; safeguard patient information with respect and confidentiality within the limits of the laws; pursue continuing education; and educate the healthcare community and the public concerning the importance of the histology laboratory.

### **Student Expected Outcomes (Entry-Level Competencies)**

At completion of the Histotechnology program, students will:

1. Receive and accession tissue specimens.
2. Prepare tissue specimens for microscopic examinations, including all routine procedures.
3. Apply principles and perform complex procedures for processing and staining tissues, including enzyme and immunohistochemistry.
4. Apply principles of in-situ hybridization.
5. Assist with and/or perform gross examination and frozen section procedures in histopathology as well as cytology specimen preparation methods.
6. Identify tissue structures, cell components, and their staining characteristics, and relate them to physiological functions.
7. Recognize factors that affect procedures and results, and take appropriate action within predetermined limits when corrections are indicated.
8. Develop, test, implement, evaluate, and select new techniques, procedures, instruments and methods in terms of their usefulness and practicality within the context of a given laboratory's personnel, equipment, space, and budgetary resources.
9. Make decisions concerning the results of quality control and quality assurance measures, and instituting proper procedures to maintain accuracy and precision.
10. Confirm abnormal results, verify quality control procedures, execute quality control procedures, and develop solutions to problems concerning the generation of laboratory data.
11. Establish and perform preventative and corrective maintenance of equipment or instruments, as well as identify appropriate sources for repair.
12. Participate in laboratory compliance with applicable regulations on safety, quality assurance, and process improvement.
13. Explain the basic principles of managing people and the essential principles of laboratory operations including financial management, marketing, and human resources management.
14. Demonstrate professional behavior and interpersonal communication skills with laboratory personnel, other health care professionals, and the public.
15. Recognize and act upon individual needs for continuing education as a function of growth and maintenance of professional competence.
16. Explain the general principles of information management in using healthcare delivery systems to produce documents, research information, communicate with others, and effectively enter and retrieve laboratory information.
17. Recognize the responsibilities of other laboratory and healthcare professionals and interact with them with respect for their jobs and patient care.
18. Develop instructional materials and present information using educational principles.
19. Demonstrate ethical standards and confidentiality with patient medical information.

20. Apply principles of information literacy and research design sufficient to evaluate published studies as an informed customer and utilize information to accomplish a specific purpose.
21. Demonstrate service excellence through commitment, integrity, caring and teamwork.

### **Weekly Schedule**

Students enrolled in the Histotechnology program spend five days per week in lecture, student and clinical laboratories, or other assigned areas. The hours of instruction are Monday through Friday from 8:00 am to 3:30 pm during the Spring and Summer semesters, and Monday through Friday from 7:00 am to 3:30 pm during the Fall semester.

### **Attendance**

Promptness and attendance are expected. Students are required to attend lectures, student labs, and clinical assignments. Students may jeopardize their ability to successfully pass a course if they are not present and on time for class and clinical. Make-up work/time for assignments missed is the responsibility of the student and at the discretion of the faculty member.

Notification of absences or tardiness is mandatory. Students must notify the histotechnology education coordinator, program director, and when applicable, clinical preceptor prior to the course start time for any unscheduled absence or tardiness. If a student is absent without notification more than one time, the student may be dismissed from the program.

### **Grading Policy**

The Histotechnology program uses the following numerical grade ranges for the final letter grade of each course:

A = 94 – 100

B = 87 – 93

C = 80 – 86

F = below 80 (Failing)

### **Grade Progression Policy**

Students must maintain a minimum course average of 80.0 in each curriculum course. Any student who has a course average below 80.0 at midterm will develop an Action Plan/Plan for Success with the approval and support from the faculty. Failure to achieve a course average of 80.0 by the end of the course will result in program dismissal. A psychomotor evaluation and an affective evaluation constitute part of the student's grade. Any student who has a continual problem meeting the psychomotor or affective objectives will be placed on an action plan and if the unacceptable behavior or attitude persists, the student may be dismissed from the program.

### **Testing Guidelines**

All examinations and tests are property of Carolinas College of Health Sciences. Students may use the tests for review at times and places designated by the faculty. In order to provide test security and enhance the testing environment, test situations will be monitored. Conversation during the testing period is not allowed. No book bags, cell phones, or notes are allowed in the testing areas.

### **Certification**

Graduates of the program receive a certificate in Histotechnology. Graduation and receipt of certificate is not contingent upon passing a certification or licensure exam. The Carolinas College of Health Sciences Histotechnology program is applying for accreditation by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Eligibility to take the American Society of Clinical Pathology Board of Certification exam will depend on the program achieving "serious applicant status" before student graduation.

### **Graduation**

Graduation is held according to the Carolinas College Fall commencement schedule. All students are expected to attend the graduation ceremony.

### Master Curriculum Plan, Certificate in Histotechnology

<b>Spring Semester</b>		<b>Credits</b>
HTL 206	Professional Issues	3
HTL 210	Histotechniques	8
HTL 230	Microtomy/Cryotomy I	5
Total Spring Semester		16
<b>Summer Semester</b>		
HTL 220	Histochemistry	6
HTL 240	Microtomy/Cryotomy II	4
Total Summer Semester		10
<b>Fall Semester</b>		
HTL 250	Histology/Histopathology	5
HTL 260	Histotechnology Clinical	13
Total Fall Semester		18
Total Histotechnology Program Semester Credit Hours		<b>44</b>
Certificate Requirements		
Histotechnology		44

Certificate is awarded upon successful completion of program

**Master Curriculum Plan, Diploma in Surgical Technology** (page 63) is updated as follows:  
SUR 103 changes to SUR 201

**Course Descriptions** (page 74) is updated as follows:

**HTL 206: Professional Issues**

Credits: 3 (3 Class) This course comprises units of study on professional development, educational methodologies, research design, and management. The unit on professional development introduces the importance of accreditation and certification along with a focus on developing professional ethics and participating in professional activities. The unit on educational methodologies includes a presentation of educational concepts concerning instructional techniques and terminology that can be utilized in an educational setting as well as to train providers of laboratory services. The unit on research design provides an introduction to the fundamentals of research terminology, sampling, measurement, design, and analysis. The unit on management includes basic managerial principles, budget considerations, laboratory safety practices, and quality assurance, quality improvement and total quality management as applied to the pre-analytical, analytical, and post-analytical components of the laboratory environment.

**HTL 210: Histotechniques**

Credits: 8 (5 Class, 3 Clinical) This course provides an introduction to histology laboratory operation, the professional responsibilities of the histotechnologist, and the principles of routine histologic techniques. Emphasis is placed on organization, terminology, specimen accession, record keeping, quality assurance, OSHA regulations, quality improvement, principles and concepts of medical ethics and legal issues. Basic histological techniques on

gross dissection, fixation, tissue processing, embedding, decalcification, and applied laboratory techniques will be covered in lecture and laboratory sessions. Upon completion of the course, students should be able to dissect, process, embed and section high quality tissue sections and meet the requirements and responsibilities of the daily operation of a histopathology laboratory.

**HTL 220: Histochemistry**

Credits: 6 (4 Class, 2 Clinical) This course encompasses essential theoretical principles and practical aspects of histochemical techniques. Emphasis is placed on special staining applications, theories of staining and dyes, immunohistochemical techniques, antibodies, protein expressions, cytology preparation techniques and case studies. Upon completion students will perform special stains, troubleshoot staining problems, evaluate stain selections and applications, select appropriate control tissues for IHC / ISH applications and perform advanced / emerging technologies.

**HTL 230: Microtomy/Cryotomy I**

Credits: 5 (2 Class, 3 Clinical) This course provides both an introduction and advanced microtomy techniques. Emphasis is placed on the microtome, microtome knives, sectioning artifacts and corrections, knife angles, physics of sectioning, instrument maintenance, manual and semi-automated microtomes. Upon completion students will perform successful sectioning of tissues for microscopic examination.

**HTL 240: Microtomy/Cryotomy II**

Credits: 4 (1 Class, 3 Clinical) This course provides both an introduction and advanced cryotomy and frozen section methodologies. Emphasis is placed on the cryostat microtome, microtome knives, sectioning artifacts and corrections, sectioning devices, knife angles, physics of sectioning and instrument maintenance. Upon completion students will perform successful sectioning of frozen section for microscopic examination.

**HTL 250: Histology/Histopathology**

Credits: 5 (2 Class, 3 Clinical) This course encompasses the identification of cells and tissues in the human body along with cell structure, tissue composition, entities, function, and study of the most common tissues, organs and systems. Molecular biology and advanced applications of tissue structure will be illustrated. Changes in tissue associated with the various disease states and the use of selected special stains and molecular assays will be used to identify disease processes in tissues.

**HTL 260: Histotechnology Clinical**

Credits: 13 (4 Class, 9 Clinical) This course provides entry-level histotechnologists clinical experience in an approved Histopathology Laboratory. Emphasis is placed on learning and performing routine laboratory operations, daily workflow applications, performing and monitoring quality improvement processes and the production of a quality microscopic slide for diagnosis. Upon completion the students should be able to demonstrate proficiency in histopathological techniques and be prepared to take the HTL certification exam.

**IDS 101: College Student Success**

Credits: 1 (1 Class) This course is designed to help students transition to college and assist students in obtaining the knowledge and practical skills necessary to reach his/her educational objectives. Topics in the course include the expectations of college, time utilization, test-taking, communication skills, study techniques, listening skills, library use, and the use of College resources. This course is recommended for any student whose pre-admission scores warrant it and available to any student who can benefit from it.

**SUR 103** (page 82) is updated as follows:

Change course number to SUR 201

**Faculty and Staff** (page 89) is updated as follows:

**Jones, Lamar**

Faculty, Clinical Laboratory Science/Histotechnology Program Coordinator

Certificate, University of Tennessee Health Science Center

BS, University of Kentucky

Certification: HT (ASCP)