

Histotechnician Student Program

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PROGRAM SUMMARY

Marshfield Clinic Health System - Marshfield Labs offers an 11-month program in Histology. The Histotechnician program is affiliated with the following universities:

- [University of Wisconsin – Stevens Point, Stevens Point, WI](#)
- [University of Wisconsin – Stout, Menomonie, WI](#)
- [Northern Michigan University, Marquette, MI](#)

Students enrolled in the Histotechnician program participate in a practicum designed to expose them to the everyday workflow of a histology laboratory and teach them the knowledge and skills necessary to work as a fully competent Histotechnician (HT). The program awards a certificate of completion to students completing the program. The awarding of the certificate is not contingent upon passing any external licensure or certification examination. Graduates are eligible to take a national Board of Certification exam to become certified as a Histotechnician (HT). Students enrolled at a university during the practicum receive a degree from their university.

The Histotechnician program was established in 1951 and is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Information regarding program accreditation status may be obtained from NAACLS at 5600 N. River Rd., Suite 720, Rosemont, Illinois, 60018-5119, Ph. 773-714- 8880, or at www.naacls.org.

PROGRAM DESCRIPTION

Histology technicians and technologists assist the pathologist by preparing and staining thin tissue sections from surgical and autopsy specimens for microscopic study. To enable the student to learn these techniques, reviews are given on microscopy, medical terminology, and basic chemistry. Lectures on tissue

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preparation, laboratory techniques, computer entry, normal microscopic histology, instrumentation, histochemistry, quality control, management, safety, and immunohistochemistry (IHC) are given by staff technicians and pathologists.



Students attend an average of ten hours of formal lectures per week during the first three months of the practicum. The rest of the time is spent learning and practicing laboratory techniques for tissue microtomy, embedding, frozen sectioning, and routine, special, and IHC staining. The finished product is a tissue section (mounted on a slide and stained), from which the pathologist makes a diagnosis. Other special rotations include a visit to the veterinary lab and minimal cross training in cytology specimen preparation. Specialty areas include immunoperoxidase, muscle biopsies, and exposure to electron microscopy and molecular areas. The student is allowed to view autopsies.



PROGRAM MISSION

The mission of the Marshfield Labs Histotechnician Program is to provide a quality educational experience for students completing a histotechnician practicum. In keeping with the mission of Marshfield Labs, the program will provide didactic and practical training that will promote high standards of patient care and medical practice.

PROGRAM GOALS AND COMPETENCIES

The goal of the program is to produce an entry-level laboratory professional that can perform procedures according to documented methodology, policy, and protocol established for routine and specialized areas of the histology laboratory. The graduate will be able to participate in the supportive functions of quality control, instrument operation, troubleshooting, and problem resolution. The graduate will exhibit qualities of leadership and professionalism.

Specifically, graduates will be expected to:

1. Receive, record, identify and charge all specimens coming into the histology laboratory.
2. Operate and maintain a microtome to



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adequately cut tissue sections at a rate of 2 minutes per block. Multiple slides and levels at 4 minutes per block.

3. Process, embed, cut, stain, and coverslip all tissue specimens received.
 - a. Embed surgical tissue at a rate of 1 minute/block.
 - b. Embed biopsy tissue at a rate of 2 minutes/block.
4. Cut, stain, and coverslip frozen sections at a maximum of seven minutes per specimen, followed by routine cryostat maintenance.
5. Operate and troubleshoot tissue processors, autostainers, and coverslippers to adequately process a day's workload.
6. Identify tissue structures and staining characteristics through routine, special, and immunohistochemical staining.
7. Operate/maintain instrumentation and work areas.
8. Maintain accurate and timely records.
9. Provide clear, appropriate, and timely communications.
10. Participate in education, instruction, and professional development.
11. Maintain attendance.
12. Promote and contribute to safety.
13. Adhere to standards of compliance programs.
14. Participate in the management of human, financial, and material resources.
15. Practice their occupation in a professional and ethical manner.

ADMISSION POLICY

Academic Requirements

Applicants must meet all of the following requirements in order to qualify for admission to the program.

1. A recommended grade point average (GPA) of 2.5 on a 4.0 scale. A GPA of 2.75 in the sciences is recommended.
2. Specific college course requirements:
 - a. Medical Terminology
 - b. Chemistry – freshman level
 - c. College algebra – enough math to support the chemistry
 - d. Anatomy and physiology – two semesters so that all the body systems have been studied.

Technical college courses may be considered for the Technician level program, providing the classes include chemistry with a lab, anatomy and physiology, and medical terminology.

Courses with content equivalent to the above may be considered. A two-year Associate Degree from a university would be ideal.

3. Applicants who wish to count college credit from a foreign university or who have completed the academic requirements prior to seven years ago should contact the Program Director concerning additional requirements.

Essential Non-academic Requirements

Applicants must demonstrate sufficient physical and emotional health to successfully participate in the program and become employable.

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A specific list of essential functions is found on the fourth page of the [Application Form](#). Applicants with special needs should inform the Program Director.

Students admitted to the program will be required to complete a [Health Information Report](#) documenting their current immunization status and titers prior to beginning the practicum. Marshfield Clinic Health System will conduct a caregiver background check.

Application Process

[Instructions for Application](#) to the Student Program and [Application](#) and [Reference Forms](#) are available electronically on this web site.

The following documents should be received in the Laboratory Education office by May 1 to be considered for admission in September:

1. A completed application form.
2. Official transcripts from all colleges, universities, and technical schools attended.
3. Three letters of reference.

Completed applications are reviewed by the program director. Personal interviews will be arranged with qualified candidates.

Student Selection

Two to three students are admitted each year in September. Students interested in the program are encouraged to visit the facility before applying. Contact the Histotechnician Program Director for information on laboratory tours.

All applicants who meet the requirements for admission and have completed the application process will be considered for admission to the program. A score sheet is completed for each applicant to facilitate the selection process. Applicants are ranked based on their application materials, academic performance, letters of reference, and personal interview. Applicants from affiliated institutions will be given selection preference over equally qualified candidates from other institutions. A letter of acceptance or rejection notifies applicants of their selection status.

Admission to the Marshfield Labs Histotechnician Program is competitive with a limited number of student positions available. Attendance at an affiliated institution does not guarantee placement in the program.

Admission shall not be denied to any person because of race, color, creed, religion, sex, national origin, disability, ancestry, age, sexual orientation, pregnancy, marital status, or parental status.

In the unlikely event of program closure, either at the laboratory or the university, any student formally notified of acceptance into the program is assured of being able to complete clinical training the following year.

Teach-out Plan

If Marshfield Labs HT Program cannot continue the educational program at the current Marshfield Labs facility (e.g., in cases of man made or natural disaster), a Teach-out Plan would be executed.

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1. Possible locations to finish out the HT practicum:
 - a. Marshfield Labs – Veterinary Lab Services: Part of Marshfield Labs; located on the Marshfield campus.
 - b. Eau Claire - Marshfield Medical Center Lab: Part of Marshfield Labs; located in Eau Claire, WI.
2. Current HT students would be contacted electronically through e-mail and followed up with formal written documentation to include:
 - a. Reason for not completing practicum at current site.
 - b. Dates for completion of practicum.
 - c. Location site for completion of practicum.
 - d. Expenses that may be incurred due to new location.
3. Same curriculum would be followed with help of program director.

CURRICULUM

Practicum Year

The practicum year for Histotechnician (HT) students is eleven (11) consecutive months and begins in September. During the first week of the practicum, students are scheduled to attend orientation sessions that are designed to familiarize the student with the policies and procedures of Marshfield Labs and Marshfield Clinic Health System.

Then through a sequence of classroom instruction and laboratory experience students will be prepared to meet the competencies required for entry-level histotechnicians.

Clinical Courses

Each section rotation is considered the equivalent of an advanced-level university course. Rotations may include a student lecture and/or lab component. All rotations address the theory, principles, methodologies, and clinical correlations specific to the area. Application of knowledge and skills is emphasized. Performance of manual and automated procedures is required. After demonstrating proficiency, students may be permitted to perform procedures under qualified supervision. By the conclusion of the rotation, students are expected to have acquired the knowledge and skills necessary to function as entry-level HT professionals.

- **Clinical Laboratory Experience I**

Suggested Semester Credit Equivalent: 15

Includes student lecture and/or laboratory component. (Five months)

Courses Include:

- **Tissue Preparation** (4 credits):
fixation, dehydration, clearing, infiltration, and decalcification.
- **Microscopy and Laboratory Techniques** (3 credits):
microscopy, coverslipping, instrumentation, and safety.
- **Laboratory Administration and Management** (2 credits):
management, quality control, and computer entry.
- **Laboratory Microtomy I** (3 credits):
laboratory orientation, medical terminology, cutting with a microtome, and hematoxylin and eosin (H&E) staining.

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- **Laboratory Chemistry/Histochemistry/Math** (3 credits):
chemical reactions, staining reactions, calculations.

- **Clinical Laboratory Experience II**

Suggested Semester Credit Equivalent: 14

Includes student lecture and/or laboratory component. (Four months)

Courses Include:

- **Laboratory Instrumentation** (5 credits):
tissue processors, frozen sections, small and large specimen embedding.
- **Laboratory Microtomy II** (3 credits):
automatic stainers and coverslippers, specimen collection, gross dissection, and basic cytology preparation.
- **Special Stains I** (3 credits):
special staining methodology for pigments, carbohydrates, connective tissue, and microorganisms.
- **Special Stains II** (3 credits):
special staining methodology for reticulum, lipids, proteins, nucleic acids, and brain.

- **Clinical Laboratory Experience III**

Suggested Semester Credit Equivalent: 6

Includes student lecture and/or laboratory component. (Two months)

Courses Include:

- **Microscopic Normal Histology** (3 credits):
routine human specimens, muscle biopsies, molecular pathology.
- **Immunohistochemistry** (3 credits):
basic theory and application, instrument training, and basic slide interpretation.

Course titles and credit values may vary according to the affiliate university.

Faculty of the program include the Program Director, Educational Coordinator, pathologists, laboratory managers, practicing certified histotechnicians and histotechnologists, and lab assistant personnel.

GENERAL INFORMATION

Program Format

The clinical practicum is 11 consecutive months, beginning in September. There is one week of orientation sessions, followed by didactic and laboratory instruction.

Students are to be in attendance Monday through Friday. The student day is eight hours long, typically beginning at 0700 and ending at 1530. Hours may be altered to give the student maximum experience, with start times as early as 0430. Schedules are provided to students in advance.

Attendance at all lectures is required.

Tuition and Fees

Students enrolled at a university during their practicum year pay tuition directly to the university.

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The university then reimburses a part of the tuition to Marshfield Labs. Students not enrolled at a university during their practicum year pay a fee directly to Marshfield Labs. The current fee for the practicum is \$4800. Twenty-five percent (25%) of the fee is due prior to beginning the program.

The balance of the fee is due by December 1st. This fee is reviewed annually and is subject to change.

The cost of required textbooks is approximately \$200 and is the responsibility of the student. The cost of national certification examinations is the responsibility of the student.

In the event of withdrawal, students enrolled at a university will be subject to the refund and withdrawal policies of their university. Students not enrolled at a university during the practicum will receive a 35% refund of their tuition if written notice is received by the Program Director before December 1. After December 1 no refund is given.

Students who need financial assistance are encouraged to visit their university's Office of Financial Aid and apply for scholarships, grants, and/or student loans.

Student Policies

During orientation, students will receive a program General Policy Guide detailing general program policies on conduct, attendance, grading, evaluation procedures, and grievance policies. They will also receive information on the safety, security, and confidentiality policies of Marshfield Labs and Marshfield Clinic Health System. Students will be expected to adhere to these policies during the practicum.

Insurance

Students are required to carry professional liability insurance through their university or purchase a personal policy. A student needing a personal policy should notify the Program Director.

Arrangements can be made for the student to purchase the appropriate insurance at minimal cost.

Students are responsible for their own medical care needs and their own health care costs. They are fully responsible for all costs related to general medical or emergency care including, but not limited to, immunizations, tests, procedures, office visits, and hospitalizations. Students may use the services of the Urgent Care Department, Emergency Department, or may seek care from a provider of their choice at their own expense. Marshfield Clinic Health System does not provide health insurance for students.

Housing

Students are responsible for obtaining their own housing and are responsible for their own housing costs. Marshfield Clinic Health System does not provide housing for HT students. Information on area housing is available online or through the Program Director.

Meals

Meals may be purchased in one of the Marshfield campus cafeterias. Lunches carried in must be eaten in the cafeterias or break rooms. Food and beverages are not allowed in the laboratories.

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Dress Code

Students are required to follow a dress code appropriate to the professional work involved and within the guidelines required for employees. Clothing should be clean, free from holes and tears, and not wrinkled or tattered. Scrubs or dress slacks and neat, clean blouses/shirts or turtlenecks are acceptable attire. Stockings must be worn; legs must be covered below pant/skirt hemlines. Open-backed shoes are acceptable, but open-toed shoes are not allowed. Tennis shoes are acceptable.

Laboratory coats and name tags are provided by Marshfield Labs.

Holidays/Vacations/Personal Days

Classes are not scheduled on national holidays, the day after Thanksgiving, and days between Christmas and New Year's Day.

Seven personal days are allowed during the program year for absences due to illness or other personal needs. Additional time off must be approved by the program director and made up by the end of the program.

Absences

Students who will be unavoidably late or absent for any reason must notify their assigned section and the Program Director as soon as possible. All work missed due to tardiness or absence must be made up by the student. Two consecutive unexcused absences are considered grounds for dismissal. Excessive absences may require the student to spend additional time in the lab at the end of the practicum year.

Part-Time Employment

Students are strongly encouraged not to be employed (work in a paid position) during the practicum year. Practicum hours will not be shortened or altered to accommodate a student's work schedule. If a job is held, it is advised that the position be part-time and the student scheduled for a limited number of hours.

Part-time jobs are occasionally available for students. The job application, interview and selection process is handled in accordance with Marshfield Clinic Health System Human Resources Department policies.

Internet Access

Marshfield Clinic Information Systems Department conducts a brief training session for students. A login will be provided for Internet and Marshfield Clinic e-mail access. PCs are available in the histology classroom, Marshfield Medical Library and in other locations throughout the facility.

Students are encouraged to bring their own laptops. Wireless access is available in limited areas; network connections are not provided.

Termination

The clinical course of study may be terminated prior to graduation for any one of the following reasons:

- Failure to maintain a grade level of 70% in classroom or practical instruction.
- Failure to comply with program, Lab, or Marshfield Clinic Health System policies.

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- Documented evidence of academic misconduct.
- A single breach of confidentiality.
- Conduct or attitude that is deemed objectionable or detrimental, or threatens the health, safety or welfare of any patients, invitees, or employees at the facility.
- Voluntary withdrawal.

Graduation

The program awards a certificate of completion to students completing the program. The awarding of the certificate is not contingent upon passing any external licensure or certification examination. Graduates are eligible to take a national [Board of Certification](#) exam to become certified as a histotechnician. Students enrolled at a university during the practicum receive a degree from their university.

OUTCOME MEASURES

The HT program was established in 1951. Outcome measures for the last five years include:

- A graduation rate of 100%.
Every student who started the final half of the practicum, graduated.
- A certification exam pass rate of 100%.
Every student who took the certification exam, passed.
- A placement rate of over 85%.
Over 85% of graduates found positions as HT's. Others returned to school to continue their studies or chose to pursue other career paths.

