

# HISTOTECHNOLOGY, BS

Health care professions separate from nursing, medicine, and pharmacy provide a range of diagnostic, technical, therapeutic and direct patient care and support services that are critical to other health professionals they work with and the patients they serve.

The overall employment outlook for individuals with professional certifications varies, but is projected to be good to excellent by the U.S. Bureau of Labor Statistics. The BS degrees include Diagnostic Medical Sonography, Histotechnology, Medical Technology, Nuclear Medicine Technology, Radiation Therapy Technology, and Radiography. These areas involve completing required course work at Roosevelt University, followed by clinical training at the appropriate affiliate clinical site. A separate application to the clinical training program is required, and acceptance is not guaranteed. Roosevelt University offers five programs with clinical training at Northwestern Memorial Hospital, Chicago (Diagnostic Medical Sonography, Histotechnology, Nuclear Medicine Technology, Radiation Therapy Technology, and Radiography) and one program with clinical training at NorthShore Health Systems, Evanston (Medical Technology).

## Requirements

Courses taken for the major must be taken on a letter grade basis. A grade of C- is the minimal acceptable grade for a course to be applied to the major, or to be acceptable as a prerequisite for subsequent courses. A minimum cumulative GPA of 2.0 is required for all courses in the major. However, it is important to note that the clinical affiliates have their own GPA requirements and may not accept grades of C- for certain required prerequisite courses.

Each of the areas of study has its own prerequisite courses and requirements. These programs require students to complete all required course work before applying to the clinical affiliate. Students are not guaranteed admission into the clinical training portion of the degree. Students must make certain they are fully aware of each area's specific acceptance requirements. Students interested in these health care careers should seek early guidance from the health coordinator in the Department of Biological, Chemical and Physical Sciences.

## Standards

- AP biology credit with a score of 3.0 or higher may apply toward the major in biology or the general education requirements after consultation with an advisor.
- AP chemistry with a score of 4 or higher satisfies the requirements for CHEM 201 GENERAL CHEMISTRY I with lab.
- AP Physics I (2014 or later) with a score of 3.0 satisfies the requirement for PHYS 201 INTRODUCTION TO NON-CALCULUS BASED PHYSICS I with lab.
- AP Physics II (2014 or later) with a score of 3.0 satisfies the requirement for PHYS 202 INTRO TO NON-CALCULUS PHYSICS II with lab.
- AP Physics C: Mechanics with a score of 3.0 satisfies the requirement for PHYS 201 INTRODUCTION TO NON-CALCULUS BASED PHYSICS I with lab and PHYS 233 CALCULUS-BASED PHYSICS I DISCUSSION.
- AP Physics C: Electricity and Magnetism with a score of 3.0 satisfies the requirement for PHYS 202 INTRO TO NON-CALCULUS PHYSICS II with lab and PHYS 234 CALCULUS-BASED PHYSICS II DISCUSSION.

In addition, students must:

- Take a minimum of their last 30 credit hours at Roosevelt University; off-site clinical courses count toward this requirement.
- Take at least 20 credit hours in acceptable Biology, Chemistry, or Physics courses at Roosevelt University; not more than 15 credit hours of acceptable Biology courses may be transferred to Roosevelt University and applied toward the BS degrees.
- Once enrolled in the program, complete all remaining Biology, Chemistry, Physics, and Mathematics course requirements for these BS degrees at Roosevelt University. Under special circumstances, written permission to take required courses elsewhere may be granted by the health coordinator.
- Apply only courses in biology taken within the past eight years toward graduation.
- Limit to 4 credit hours the total of independent study hours (BIOL 395 INDEPENDENT STUDY/BCHM 395 INDEPENDENT STUDY/CHEM 395 INDEPENDENT STUDY/PHYS 395 INDEPENDENT STUDY) and independent research (BIOL 392 RESEARCH IN BIOLOGY/BCHM 392 RESEARCH IN BIOCHEMISTRY/CHEM 392 RESEARCH IN CHEMISTRY/PHYS 392 RESEARCH IN PHYSICS) used to fulfill the requirements of the major.

The Histotechnology program at Roosevelt University is the only bachelor's level program in the state of Illinois that trains students to become histotechnologists.

Histotechnologists process patient samples for the detection of tissue abnormalities and to determine the best treatment for the diseases causing the abnormalities. In addition to the dyes and chemicals used to prepare and stain tissues for microscopy, immunological and DNA techniques are used to determine specific cell types in tumors. The tasks performed by the histotechnologist require patience, mechanical ability, and knowledge of biology, immunology, molecular biology, anatomy, and chemistry. Most histotechnologists work in hospitals.

Contact an advisor in the Department of Biological, Chemical, and Physical Sciences for details and advising as soon as possible. This is a 3+1 program, in which the first three years of course work is completed at Roosevelt University and the final year at Northwestern Memorial Hospital.

## Admission

Admission to clinical training is at the discretion of the clinical affiliate, Northwestern Memorial Hospital. Students are not guaranteed admission. The minimum GPA for application for this program is 2.75 GPA overall and a 2.75 GPA in the prerequisite courses. Students in clinical training are registered through Roosevelt University and pay Roosevelt University tuition. There is no additional tuition charge for the clinical portion of the program.

## Requirements

Histotechnology students complete a minimum 86 credit hours of academic course work at Roosevelt University, including the university writing requirement and the College of Arts and Sciences general education requirements, in addition to the Histotechnology concentration requirements outlined below. They complete their last 36 credit hours in a one-year, full-time, daytime clinical training program at Northwestern Memorial Hospital\*. Upon successful completion of the clinical program, students receive a Certificate in Histotechnology from the hospital and

a BS in Histotechnology from the university, and are eligible to sit for the ASCP certification examination.

\* Acceptance into the clinical training is not guaranteed and is at the discretion of the clinical site.

| Code  | Title                                       | Credit Hours |
|---|---|--------------|
| <b>Core</b>   |   |              |
| BIOL 123  | ANATOMY & PHYSIOLOGY I (with lab)           | 4            |
| BIOL 124  | ANATOMY & PHYSIOLOGY II (with lab)          | 4            |
| BIOL 202  | ECOLOGY, EVOLUTION, AND GENETICS (with lab) | 5            |
| BIOL 301  | CELLULAR & MOLECULAR BIOLOGY (with lab)     | 5            |
| BIOL 360  | MICROBIOLOGY (with lab)                     | 5            |
| BIOL 367  | IMMUNOLOGY (with lab)                       | 5            |
| CHEM 201  | GENERAL CHEMISTRY I (with lab)              | 5            |
| CHEM 202  | GENERAL CHEMISTRY II (with lab)             | 5            |
| CHEM 211  | ORGANIC CHEMISTRY I (with lab)              | 5            |
| or CHEM 210   | SURVEY OF ORGANIC CHEMISTRY                 |              |
| MATH 121  | COLLEGE ALGEBRA                             | 3            |
| MATH 217  | ELEMENTARY STATISTICS                       | 3            |
| <b>Clinical Courses for Histotechnology</b>                             |   |              |
| ALH 333   | LABORATORY MANAGEMENT                       | 2            |
| ALH 334   | INTRODUCTION TO HISTOTECHNOLOGY             | 2            |
| ALH 336   | PROCESSING & EMBEDDING TISSUES              | 3            |
| ALH 337   | MICROTOMY/INSTRUMENTATION                   | 4            |
| ALH 338   | ROUTINE STAIN AND QUALITY CONTROL           | 2            |
| ALH 357   | CLINICAL PRACTICUM I                        | 3            |
| ALH 375   | IMMUNOHISTOCHEMISTRY                        | 3            |
| ALH 376   | ELECTRON MICROSCOPY                         | 2            |
| ALH 377   | SPECIAL STAINS                              | 3            |
| ALH 378   | HISTOTECHNOLOGY PROCESS IMPROVEMENT         | 2            |
| ALH 379   | SEMINAR- ED & RES IN HISTOLOGY              | 3            |
| ALH 390   | MICROANATOMY                                | 3            |
| ALH 391   | IMMUNOFLUOR/ENZYME/IN SITU                  | 2            |
| <b>General Education, University Writing Requirement, and Electives</b> |   | 35           |
| <b>Core requirements</b>  |   | 49           |
| <b>Clinical requirements</b>  |   | 36           |
| <b>Total requirements for degree</b>                                    |   | 120          |

## CORE Requirements (General Education)

| Code  | Title                                     | Credit Hours |
|---|---|--------------|
| <b>First Year Success Course or Transfer Success Course</b> |   |              |
| FYS 101   | FIRST YEAR SUCCESS COURSE                 | 1            |
| or TRS 101  | TRANSFER SUCCESS 101                      |              |
| <b>Communication Requirement</b>                            |   |              |
| ENG 101   | COMPOSITION I: CRITICAL READING & WRITING | 3            |

|          |  |   |
|----------|--|---|
| ENG 102  | COMPOSITION II: INTRODUCTION TO ACADEMIC RESEARCH  | 3 |
| LIBS 201 | WRITING SOCIAL JUSTICE (Transfer students with acceptable communication credit may be exempt from this requirement.) | 3 |

### Ideas Across Disciplines

3 credits in coursework categorized as Ideas. 3

### Humanities and Fine and Performing Arts

9 credits from the following subject areas: African-American Studies, Art History, English (excluding ENG 101 and ENG 102), History, Languages, Music, Philosophy, Theatre, Speech and Women's and Gender Studies 9

### Mathematics

MATH 110 QUANTITATIVE LITERACY (or above) 3

### Science

One biological science and one physical science required (at least one must be a four-hour lab). (Not applicable for science majors) 7-8

### Social Sciences

9 credits from the following subject areas: African-American Studies, Anthropology, Economics, History, Journalism, Philosophy, Political Science, Psychology, Sociology and Women's and Gender Studies 9

### Experiential Learning

6 credits from coursework categorized as Experiential Learning.

Total Credit Hours 41-42

These quantitative requirements also apply to degrees in the College of Arts and Sciences:

- Students must earn a minimum of 120 semester hours.
- Students may apply no more than 60 credit hours of 100-level courses toward the degree.
- Students must apply no fewer than 60 credit hours of 200- and 300-level courses toward the degree.
- Students must have at least 18 credit hours (of the 60 credit hours above) at the 300 level.
- Students may transfer in no more than 70 credit hours from community colleges.
- Students must take their final 30 hours at Roosevelt University. Note that some majors have additional requirements for RU hours.
- Students must have a grade point average of 2.0 or higher to graduate. Note that some majors have additional GPA requirements.
- Students may apply no more than 51 hours in the major (BA) or 57 hours in the major (BS)

Your degree map is a general guide suggesting courses to complete each term on the academic pathway to your degree. It is based on the most current scheduling information from your academic program. Your program's degree map is reviewed annually and updated as schedules change (although you retain the same course requirements as long as you are continuously enrolled in your degree program).

Always work closely with your academic advisor to understand curriculum requirements and scheduling, as each student's academic plan can look slightly different.

| <b>Year 1</b> |                            |                     |
|---------------|----------------------------|---------------------|
| <b>Fall</b>   | <b>Credit Hours Spring</b> | <b>Credit Hours</b> |
| FYS 101       | 1 ENG 102                  | 3                   |
| ENG 101       | 3 CHEM 202                 | 5                   |
| MATH 121      | 3 Ideas Across Disciplines | 3                   |
| CHEM 201      | 5 Humanities #1            | 3                   |
|               | 12                         | 14                  |

| <b>Year 2</b>     |                            |                     |
|-------------------|----------------------------|---------------------|
| <b>Fall</b>       | <b>Credit Hours Spring</b> | <b>Credit Hours</b> |
| BIOL 123          | 4 BIOL 124                 | 4                   |
| CHEM 211 or 210   | 5 BIOL 301                 | 5                   |
| LIBS 201          | 3 MATH 217                 | 3                   |
| Social Science #1 | 3 Humanities #2            | 3                   |
|                   | 15                         | 15                  |

| <b>Year 3</b>                         |                            |                     |
|---------------------------------------|----------------------------|---------------------|
| <b>Fall</b>                           | <b>Credit Hours Spring</b> | <b>Credit Hours</b> |
| BIOL 202                              | 5 BIOL 367                 | 5                   |
| BIOL 360                              | 5 Humanities #3            | 3                   |
| Experiential Learning #1 <sup>1</sup> | 3 Social Science #2        | 3                   |
| General Elective                      | 3 Social Science #3        | 3                   |
|                                       | 16                         | 14                  |

| <b>Year 4</b>                         |                            |                     |
|---------------------------------------|----------------------------|---------------------|
| <b>Fall</b>                           | <b>Credit Hours Spring</b> | <b>Credit Hours</b> |
| ALH 333                               | 2 ALH 357                  | 3                   |
| ALH 334                               | 2 ALH 375                  | 3                   |
| ALH 336<br>(Experiential learning #2) | 3 ALH 376                  | 2                   |
| ALH 337                               | 4 ALH 377                  | 3                   |
| ALH 338                               | 2 ALH 378                  | 2                   |
| ALH 390                               | 3 ALH 379                  | 3                   |
|                                       | ALH 391                    | 2                   |
|                                       | 16                         | 18                  |

Total Credit Hours 120

<sup>1</sup> Experiential Learning class must be 200/300 level. Satisfies CORE Experiential Learning requirement. EXL courses can satisfy major requirements/electives or CORE requirement.