BIOMEDICAL SCIENCES, BS: CYTOTECHNOLOGY

Effective Fall 2024, the Cytotechnology submajor has suspended admission.

Students in the Biomedical Sciences major are awarded a Bachelor of Science degree upon completion of all requirements. Students choose from one of the following seven areas or submajors:

- Medical Laboratory Science
- Biomedical Science
- Cytotechnology
- Radiologic Technology
- Diagnostic Medical Sonography
- Diagnostic Imaging (degree completion program)
- Health Science (degree completion program)
- Public Health Microbiology

All students will be required to comply with a background check, drug screen, and maintain health insurance during the professional training experience.

Cytotechnology

Cytotechnologists examine human cells under the microscope, looking for early signs of cancer or other diseases. When abnormal cells are detected, the cytotechnologist works with a pathologist to arrive at a final diagnosis. Students enrolled in the Cytotechnology Program will complete their senior year of professional clinical training at the UW / State Lab of Hygiene in Madison.

Effective Fall 2024, the Cytotechnology submajor has suspended admission.

Requirements

Students in the Biomedical Sciences major are awarded a Bachelor of Science degree upon completion of all requirements. All students, with the exception of students in the Diagnostic Imaging or Health Sciences degree completion program, will be required to comply with a background check and maintain health insurance during the professional training experience.

The process of application to the professional training occurs at the end of the first semester of the junior year.

The minimum degree requirement is 120 credits including the following. Entry into professional training is competitive and dependent upon completing the requirements below. The program will attempt to place all students who meet academic requirements but cannot guarantee that every student will be placed in a clinical rotation.

1. Completion of UWM's General Education Requirements (GER) (https://catalog.uwm.edu/policies/undergraduate-policies/#bachelorsdegreegeneraleducation);
2. A cumulative UWM minimum grade point average of 2.5;
3. A cumulative minimum grade point average of 2.5 in specific, required science courses;
4. Completion of:
   a. all required courses and electives (87 credits) through the second semester of junior year for students pursuing Cytotechnology;
   b. all required courses and electives (114 credits) through the first semester of senior year for students pursuing Public Health Microbiology; and
5. A grade of C or better in all junior-level courses.

Students who meet these minimum requirements for entry into professional training will be evaluated on the basis of their science GPA for placement at one of the training sites.

To remain eligible to continue in the professional training, students must earn a grade of C or better in all senior-level courses.

Degree Requirements

Code	Title	Credits
University Core		
Competency Requirements		
Oral and Written Communication (OWC) Part A & B		
Quantitative Literacy (QL) Part A & B		
Foreign Language		
Distribution Requirements		
Arts		3
Cultural Diversity		3
Humanities		6
Natural Sciences		6
Social Sciences		6
Biomedical Science Core		
BIO SCI 150	Foundations of Biological Sciences I [1]	4
BIO SCI 202	Anatomy and Physiology I [1]	4
BIO SCI 203	Anatomy and Physiology II [1]	4
BIO SCI 325	Genetics [1]	4
BIO SCI 383	General Microbiology [1]	4
BMS 205	Foundations of Diagnostic Science: Exploring Health, Technology, and Ethics	3
BMS 301 & BMS 302 & BMS 303 & BMS 304 & BMS 305	Human Pathophysiology: Fundamentals and Human Pathophysiology: Organ Systems I and Human Pathophysiology: Organ Systems II and Human Pathophysiology: Organ Systems III and Human Pathophysiology: Organ Systems IV [1]	5
BMS 427	Clinical Immunology [1]	3
BMS 428	Clinical Immunology Laboratory [1]	1
BMS 534	Medical Microbiology	3
BMS 535	Medical Microbiology Laboratory	2
BMS 536	Applied Clinical Microbiology	2
BMS 537	Medical Parasitology and Mycology	2
BMS 560	Molecular and Genetic Diagnostics	2
BMS 561	Molecular Diagnostics Laboratory	1
CHEM 102	General Chemistry [1]	5
CHEM 104	General Chemistry and Qualitative Analysis [1]	5
CHEM 341	Introductory Survey of Organic Chemistry [1]	3

CHEM 342	Introductory Organic Chemistry Laboratory [1]	2
CHEM 501	Introduction to Biochemistry [1]	3
HCA 224	Computational Tools for Healthcare Professionals	3
KIN 270	Statistics in the Health Professions: Theory and Practice [2]	3

[1] Course counts towards a student's science GPA.
[2] MTHSTAT 215 may substitute for KIN 270.

Pre-Clinical Requirements

The junior year for students pursuing the Cytotechnology submajor consists primarily of pre-clinical courses, and the senior year is a 12-month professional training experience.

Cytotechnology students must be prepared for full-time study (40 hours per week) that could also require additional study time at night and on weekends.

Code	Title	Credits
BMS 101	Introduction to Clinical Laboratory Sciences [2]	2
BMS 205	Foundations of Diagnostic Science: Exploring Health, Technology, and Ethics [2]	3
BMS 420	Clinical Hematology	3
BMS 421	Introduction To Hematology Laboratory	1
BMS 431	Clinical Chemistry	3
BMS 432	Clinical Chemistry Laboratory Theory & Operations	1
BMS 521	Applied Clinical Hematology	2
BMS 522	Hemostasis	1
BMS 534	Medical Microbiology	3
BMS 535	Medical Microbiology Laboratory	2
BMS 536	Applied Clinical Microbiology	2
BMS 537	Medical Parasitology and Mycology	2
BMS 541	Urinalysis	1
BMS 542	Applied Clinical Chemistry	2
BMS 560	Molecular and Genetic Diagnostics	2
BMS 561	Molecular Diagnostics Laboratory	1

[2] BMS 101 and BMS 205 are highly recommended but not required.

Cytotechnology Submajor Requirements

Code	Title	Credits
BMS 501	Introduction to Cytotechnology	1
BMS 575	Cytology of the Female Genital Tract - I	4
BMS 576	Cytology of the Female Genital Tract - II	4
BMS 577	Cytology of the Respiratory Tract	3
BMS 578	Cytology of the Gastrointestinal and the Genito-Urinary Tract	2
BMS 579	Cytology of Effusions and the Central Nervous System	3
BMS 580	Aspiration Cytology	4
BMS 581	Special Procedures in Cytology	1
BMS 582	Cytology of the Breast	1
BMS 583	Cytology Preparation Techniques	1
BMS 586	Cytology Lab Operations and Quality Control	1
BMS 587	Research Methods in Cytology	1
BMS 588	Diagnostic Microscopy in Cytology	5

Students apply to be admitted to the State Hygiene Lab in Madison, WI for their clinical rotations.

Biomedical Sciences Requirements

Year 1		
Semester 1		**Credits**
BIO SCI 202	Anatomy and Physiology I	4
BMS 101	Introduction to Clinical Laboratory Sciences [1]	2
BMS 205	Foundations of Diagnostic Science: Exploring Health, Technology, and Ethics [1]	3
CHEM 102	General Chemistry	5
GER Elective: Arts		3
	Credits	**17**
Semester 2		
BIO SCI 203	Anatomy and Physiology II	4
CHEM 104	General Chemistry and Qualitative Analysis	5
HCA 224	Computational Tools for Healthcare Professionals	3
GER Elective: Humanities		3
	Credits	**15**
Year 2		
Semester 1		
BIO SCI 150	Foundations of Biological Sciences I	4
BMS 301	Human Pathophysiology: Fundamentals	1
BMS 302	Human Pathophysiology: Organ Systems I	1
BMS 303	Human Pathophysiology: Organ Systems II	1
CHEM 341	Introductory Survey of Organic Chemistry	3
CHEM 342	Introductory Organic Chemistry Laboratory	2
ENGLISH 207	Health Science Writing (OWCB) [2]	3
	Credits	**15**
Semester 2		
BIO SCI 325	Genetics	4
BMS 304	Human Pathophysiology: Organ Systems III	1
BMS 305	Human Pathophysiology: Organ Systems IV	1
KIN 270	Statistics in the Health Professions: Theory and Practice (QLB)	3
GER Elective: Social Science		3
GER Elective: Social Science		3
	Credits	**15**
Year 3		
Semester 1		
BIO SCI 383	General Microbiology	4
BMS 427	Clinical Immunology	3
BMS 428	Clinical Immunology Laboratory	1
CHEM 501	Introduction to Biochemistry	3
GER Elective: Humanities		3
	Credits	**14**
Semester 2		
BMS 420	Clinical Hematology	3
BMS 421	Introduction To Hematology Laboratory	1
BMS 431	Clinical Chemistry	3
BMS 432	Clinical Chemistry Laboratory Theory & Operations	1
BMS 534	Medical Microbiology	3
BMS 535	Medical Microbiology Laboratory	2

BMS 560	Molecular and Genetic Diagnostics	2
BMS 561	Molecular Diagnostics Laboratory	1
	Credits	**16**
Year 4		
Summer		
BMS 521	Applied Clinical Hematology	2
BMS 522	Hemostasis	1
BMS 536	Applied Clinical Microbiology	2
BMS 537	Medical Parasitology and Mycology	2
BMS 541	Urinalysis	1
BMS 542	Applied Clinical Chemistry	2
	Credits	**10**
	Total Credits	**102**

[1] BMS 101 and BMS 205 are highly recommended but not required.
[2] ENGLISH 207 is required for students without any credit prior to Fall 2013.

Cytotechnology Submajor Requirements

Year 4		
Semester 1		**Credits**
BMS 501	Introduction to Cytotechnology	1
BMS 575	Cytology of the Female Genital Tract - I	4
BMS 576	Cytology of the Female Genital Tract - II	4
BMS 577	Cytology of the Respiratory Tract	3
	Credits	**12**
Semester 2		
BMS 578	Cytology of the Gastrointestinal and the Genito-Urinary Tract	2
BMS 579	Cytology of Effusions and the Central Nervous System	3
BMS 580	Aspiration Cytology	4
BMS 581	Special Procedures in Cytology	1
BMS 582	Cytology of the Breast	1
BMS 586	Cytology Lab Operations and Quality Control	1
	Credits	**12**
	Total Credits	**24**

Honors in the Major

Honors in the major are granted to students who earn a GPA of 3.500 or above on a minimum of 30 completed credits at UWM.

College of Health Professions and Sciences Dean's Honor List

GPA of 3.500 or above, earned on a full-time student's GPA on 12 or more graded credits in a given semester.

Honors College Degree and Honors College Degree with Distinction

Granted to graduating seniors who complete Honors College requirements, as listed in the Honors College (https://catalog.uwm.edu/honors-college/) section of this site.

Commencement Honors

Students with a cumulative GPA of 3.500 or above, based on a minimum of 40 graded UWM credits earned prior to the final semester, will receive all-university commencement honors and be awarded the traditional gold cord at the December or May Honors Convocation. Please note that for honors calculation, the GPA is **not** rounded and is truncated at the third decimal (e.g., 3.499).

Final Honors

Earned on a minimum of 60 graded UWM credits: Cum Laude - 3.500 or above; Magna Cum Laude - 3.650 or above; Summa Cum Laude - 3.800 or above.