

# BIOMEDICAL SCIENCES, BS: BIOMEDICAL SCIENCE

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.

## Biomedical Science

Students in the Biomedical Sciences major are awarded a Bachelor of Science degree upon completion of all requirements. This submajor provides excellent preparation for medical, physician assistant, dental, or veterinary school, biomedical research, forensic science, or employment with pharmaceutical or biotechnology companies.

## Requirements

This program is intended for students who wish to pursue an education in a laboratory-based program with the intent of working in the healthcare industry or for pursuing graduate health profession study. Sufficient elective credits are included to facilitate custom degree pathways. The minimum number of credits required to complete this degree is 120. Students who need background preparation courses in math, English, foreign language, or chemistry may need additional credits. This program does not lead to certification as a Medical Laboratory Scientist.

The minimum degree requirement for completion is 120 credits including:

1. Completion of UWM's General Education Requirements (GER) (<http://catalog.uwm.edu/policies/undergraduate-policies/#generaleducationtext>);
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 all required courses and electives (87 credits) through the second semester of junior year (per plan of study);
5. A grade of C or better in all junior-level courses.

## Biomedical Science Submajor Requirements

Code	Title	Credits
CHS 100	New Student Seminar in Health Professions	1
BIO SCI 202	Anatomy and Physiology I <sup>1</sup>	4

CHEM 102	General Chemistry (Semester 2) <sup>1</sup>	5
BIO SCI 203	Anatomy and Physiology II <sup>1</sup>	4
CHEM 104	General Chemistry and Qualitative Analysis <sup>1</sup>	5
HS 224	Computational Tools for Healthcare Professionals	3
THERREC 103	Life Balance: An Understanding of Leisure (or equivalent) <sup>2</sup>	3
BIO SCI 150	Foundations of Biological Sciences I <sup>1</sup>	4
BMS 301	Human Pathophysiology: Fundamentals <sup>1</sup>	1
BMS 302	Human Pathophysiology: Organ Systems I <sup>1</sup>	1
BMS 303	Human Pathophysiology: Organ Systems II <sup>1</sup>	1
CHEM 341	Introductory Survey of Organic Chemistry <sup>1</sup>	3
CHEM 342	Introductory Organic Chemistry Laboratory <sup>1</sup>	2
COMSDIS 250	Interprofessional Communication in the Health Sciences (or equivalent)	3
BIO SCI 325	Genetics <sup>1</sup>	4
BMS 304	Human Pathophysiology: Organ Systems III <sup>1</sup>	1
BMS 305	Human Pathophysiology: Organ Systems IV <sup>1</sup>	1
BMS 245	Client Diversity in Health Sciences: An Interdisciplinary Perspective (or equivalent) <sup>4</sup>	3
ENGLISH 207	Health Science Writing (or equivalent)	3
BIO SCI 383	General Microbiology <sup>1</sup>	4
BMS 427	Clinical Immunology <sup>1</sup>	3
BMS 428	Clinical Immunology Laboratory <sup>1</sup>	1
CHEM 501	Introduction to Biochemistry ((1))	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 534	Medical Microbiology	3
BMS 535	Medical Microbiology Laboratory	2
BMS 560	Molecular and Genetic Diagnostics	2
BMS 561	Molecular Diagnostics Laboratory	1
BMS 523	Lectures in Advanced Clinical Hematology	1
BMS 547	Clinical Laboratory Diagnosis	5
BMS 555	Toxicology and Therapeutic Drug Monitoring	1
BMS 610	Pharmacology	3
BMS 531	Advanced Lectures in the Clinical Laboratory Sciences	1
BMS 549	Professional Development in Clinical Laboratory Sciences	3
or BMS 434	Professional Development in the Health Sciences	

Additional Electives and GER Competencies	24	
KIN 270	Statistics in the Health Professions: Theory and Practice	3
<b>Total Credits</b>	<b>120</b>	

- <sup>1</sup> Required science courses - 2.5 average GPA.  
<sup>2</sup> Fulfills 3 credits of GER Humanities.  
<sup>3</sup> Electives posted in final year only necessary to complete credit requirement for graduation.  
<sup>4</sup> Fulfills 3 credits of both Cultural Diversity and Social Sciences.  
<sup>5</sup> Fulfills 3 credits GER social science.

BMS 101 and BMS 205 are recommended, but not required.

## Suggested Elective Certificates

(Please consult advising regarding certificate requirements):

Molecular Diagnostics Certificate (<http://catalog.uwm.edu/health-sciences/biomedical-sciences/molecular-diagnostics-undergraduate-certificate/>)

Code	Title	Credits
BIO SCI 325	Genetics *	4
BMS 539	Public Health Microbiology	2
BMS 540	Public Health Microbiology Lab	2
CHEM 501	Introduction to Biochemistry *	3
BMS 560	Molecular and Genetic Diagnostics *	2
BMS 561	Molecular Diagnostics Laboratory *	1
BMS 549	Professional Development in Clinical Laboratory Sciences *	3
BMS 534	Medical Microbiology *	3
BMS 535	Medical Microbiology Laboratory *	2

Health Care Informatics Certificate (<http://catalog.uwm.edu/health-sciences/health-informatics-administration/health-care-informatics-undergraduate-certificate/>) (**available online**)

Code	Title	Credits
HS 222	Language of Medicine	3
HS 224	Computational Tools for Healthcare Professionals *	3
INFOST 315	Knowledge Organization for Information Science and Technology	3
HCA 537	Health Information Technology and Management	3
HCA 541	Healthcare Information Systems Analysis and Design	3
INFOST 465	Legal Aspects of Information Products and Services	3

Health Care Administration Minor (<http://catalog.uwm.edu/health-sciences/health-informatics-administration/health-care-administration-minor/>) (**available online**)

Code	Title	Credits
HS 102	Healthcare Delivery in the United States	3
HCA 220	Leading Healthcare Professionals	3

HS 311	Law and Ethics for Healthcare Professionals	3
HCA 333	Health Organizations Professional Practice Standards	2
HCA 537	Health Information Technology and Management	3
HCA 422	Human Resource Management in Healthcare Organizations	3

\*Included in the required curriculum.

## Biomedical Science Submajor Requirements

### Year 1

Semester 1		Credits
CHS 100	New Student Seminar in Health Professions	1
BIO SCI 202	Anatomy and Physiology I <sup>1</sup>	4
CHEM 102	General Chemistry <sup>1</sup>	5
BMS 101	Introduction to Clinical Laboratory Sciences (recommended, not required)	
BMS 205	Introduction to Diagnostic Medicine (recommended, not required)	
Arts GER		3
	<b>Credits</b>	<b>13</b>

Semester 2		Credits
BIO SCI 203	Anatomy and Physiology II <sup>1</sup>	4
CHEM 104	General Chemistry and Qualitative Analysis <sup>1</sup>	5
HS 224	Computational Tools for Healthcare Professionals	3
THERREC 103	Life Balance: An Understanding of Leisure (or equivalent)	3
	<b>Credits</b>	<b>15</b>

### Year 2

Semester 1		Credits
BIO SCI 150	Foundations of Biological Sciences I <sup>1</sup>	4
BMS 301	Human Pathophysiology: Fundamentals	1
BMS 302	Human Pathophysiology: Organ Systems I <sup>1</sup>	1
BMS 303	Human Pathophysiology: Organ Systems II <sup>1</sup>	1
CHEM 341	Introductory Survey of Organic Chemistry <sup>1</sup>	3
CHEM 342	Introductory Organic Chemistry Laboratory <sup>1</sup>	2
COMSDIS 250	Interprofessional Communication in the Health Sciences (or equivalent) <sup>5</sup>	3
	<b>Credits</b>	<b>15</b>

Semester 2		Credits
BIO SCI 325	Genetics	4
BMS 245	Client Diversity in Health Sciences: An Interdisciplinary Perspective (or equivalent)	3
BMS 304	Human Pathophysiology: Organ Systems III <sup>1</sup>	1
BMS 305	Human Pathophysiology: Organ Systems IV <sup>1</sup>	1
ENGLISH 207	Health Science Writing (or equivalent)	3
KIN 270	Statistics in the Health Professions: Theory and Practice	3
	<b>Credits</b>	<b>15</b>

### Year 3

Semester 1		Credits
BIO SCI 383	General Microbiology <sup>1</sup>	4
BMS 427	Clinical Immunology <sup>1</sup>	3
BMS 428	Clinical Immunology Laboratory <sup>1</sup>	1
CHEM 501	Introduction to Biochemistry <sup>1</sup>	3
Humanities GER		3
	<b>Credits</b>	<b>14</b>

Semester 2		Credits
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
<b>Year 4</b>		
<b>Semester 1</b>		
BMS 523	Lectures in Advanced Clinical Hematology	1
BMS 547	Clinical Laboratory Diagnosis	5
BMS 555	Toxicology and Therapeutic Drug Monitoring	1
BMS 610	Pharmacology	3
Electives		6
Credits		16
<b>Semester 2</b>		
BMS 531	Advanced Lectures in the Clinical Laboratory Sciences	1
BMS 549 or BMS 434	Professional Development in Clinical Laboratory Sciences or Professional Development in the Health Sciences	3
Electives		12
Credits		16
Total Credits		120

<sup>1</sup> Required science courses - 2.5 average GPA.

## 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 following advancement to a Health Sciences major.

## Honors in the College of Health Sciences

### Dean's Honor List

GPA of 3.750 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 (<http://catalog.uwm.edu/opportunities-resources/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.