COLLEGE OF ARTS AND SCIENCE | COLLEGE OF MEDICINE

BIOMEDICAL SCIENCES GUIDEBOOK

UNIVERSITY OF SASKATCHEWAN

The University of Saskatchewan's main campus is located on Treaty 6 Territory and the Homeland of the Métis.

LAND ACKNOWLEDGMENT

The land is acknowledged as our Mother, the Earth. The University of Saskatchewan is committed to honor and support the *Indigenous peoples, Indigenous cultures, Indigenous values, and Indigenous languages that belong to the land of Treaty 6 Territory and Homeland of the Métis. The University of Saskatchewan is committed to working towards mending colonized lands and protecting the land in a way that demonstrates honour, respect, and love. The University of Saskatchewan extends this commitment to the lands and Treaty territories (Treaties 2, 4, 5, 6, 7, 8, and 10) that constitute kisiskâciwan ([Saskatchewan], "the swift current", Cree/ Saulteaux), and all Indigenous people that call kisiskâciwan home. We are born to the land and the land claims us.

Office of the Vice-Provost Indigenous Engagement

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About This Guide

Welcome to the Bachelor of Science in Biomedical Sciences (BSc (BMSC))!

This guidebook is intended for current BSc (BMSC) students to help guide your program planning at the University of Saskatchewan. This will provide valuable information about the Biomedical Science (BMSC) program; how to apply for majors; how to plan your major; highlights of important course offerings; available research opportunities; and more. While not exhaustive, this guidebook offers essential information that is helpful for your academic journey.

USask Biomedical Sciences Program Structure

Biomedical science is a diverse field of study that focuses on biological sciences especially relevant to human health and the improvement of patient care.

Through a unique partnership, the Colleges of Arts & Science and Medicine at USask offer the direct-entry Bachelor of Science in Biomedical Sciences (BSc (BMSC)). It is delivered by two departments housed in the College of Medicine - Anatomy, Physiology, and Pharmacology (APP) and Biochemistry, Microbiology and Immunology (BMI). APP offers courses that focus on anatomy, human physiology (including all body systems and how they interact and function), cell and developmental biology, neuroscience, and pharmacology (drug interactions with the body and specific systems). BMI offers courses that focus on biochemistry; biomolecules, DNA, proteins, as well as immunology, microbiology, virology, vaccinology, and pathogenesis (how bacteria and viruses interact with the body).

USask BMSC offers a single three-year degree, Biomedical Foundations, as well as four-year degrees, or honours in these fields: Biochemistry, Microbiology, and Immunology (BMI), Biomedical Neuroscience (BMNS), Cellular, Physiological, and Pharmacological Sciences (CPPS), and Interdisciplinary Biomedical Sciences (ID BMSC).

Students who have completed BMSC degrees have pursued careers in biomedical research, biotechnology, medicine, pharmacy, dentistry, physical therapy, nursing, optometry, veterinary medicine, and many other healthcare-related areas. For information on career planning, up-to-date job postings, resume guides, and more, check out **USask Career Services**.

Common Core Courses for First and Second Year

Each of our majors build on the foundation of a two-year biomedical science core platform which provide students with an introductory exposure to cell biology, biochemistry, microbiology, physiology, and pharmacology. Once the core courses have been completed, students apply for one of the BMSC majors. This allows students a broad introductory experience with which to decide which major suits them best.

First year

This degree program is flexible and offers you the opportunity to take courses in many different subject areas. Here is what a typical first-year schedule might look like:

FIRST YEAR	
FALL TERM	**DESCRIPTION**
BIOL 120	THE NATURE OF LIFE
CHEM 112	GENERAL CHEMISTRY I STRUTURE BONDING AND PROPERTIES OF MATERIALS
PHYS 115	PHYSICS AND THE UNIVERSE
INDG 107	INTRODUCTION TO CANADIAN INDIGENOUS STUDIES
ENG 112	LITERATURE AND COMPOSITION READING DRAMA

WINTER TERM	DESCRIPTION
BMSC 200	BIOMOLECULES
CHEM 115	GENERAL CHEMISTRY II CHEMICAL PROCESSES
PHYS 117	PHYSICS FOR THE LIFE SCIENCES
PSY 120	BIOLOGICAL AND COGNITIVE BASES OF PSYCHOLOGY
ART 110	ART TODAY IDEAS AND PRACTICES

Second year

SECOND YEAR	
FALL TERM	**DESCRIPTION**
BMSC 207	HUMAN BODY SYSTEMS I
BMSC 210	MICROBIOLOGY
BMSC 240	LABORATORY TECHNIQUES
CHEM 250	INTRODUCTION TO ORGANIC CHEMISTRY
MUS 101	FUNDAMENTALS OF MUSIC I EXPLORING FOUNDATIONS

WINTER TERM	DESCRIPTION
BMSC 208	HUMAN BODY SYSTEMS II
BMSC 220	CELL BIOLOGY
BMSC 230	METABOLISM
MATH 110	CALCULUS I
ARCH 112	THE HUMAN JOURNEY INTRODUCTION TO ARCHAEOLOGY AND BIOLOGICAL ANTHROPOLOGY

The BMSC Majors

All of these programs can be found in the **University Catalogue**.

BIOMEDICAL FOUNDATIONS (BMF)

Three-year degree

This program builds on the two-year common core biomedical sciences platform shared by all the BMSC majors to provide students with a strong foundation of multi-disciplinary training while providing flexibility. This program includes courses for students preparing to enter health-related professional schools that do not require a four-year degree such as dentistry, veterinary medicine, and pharmacy.

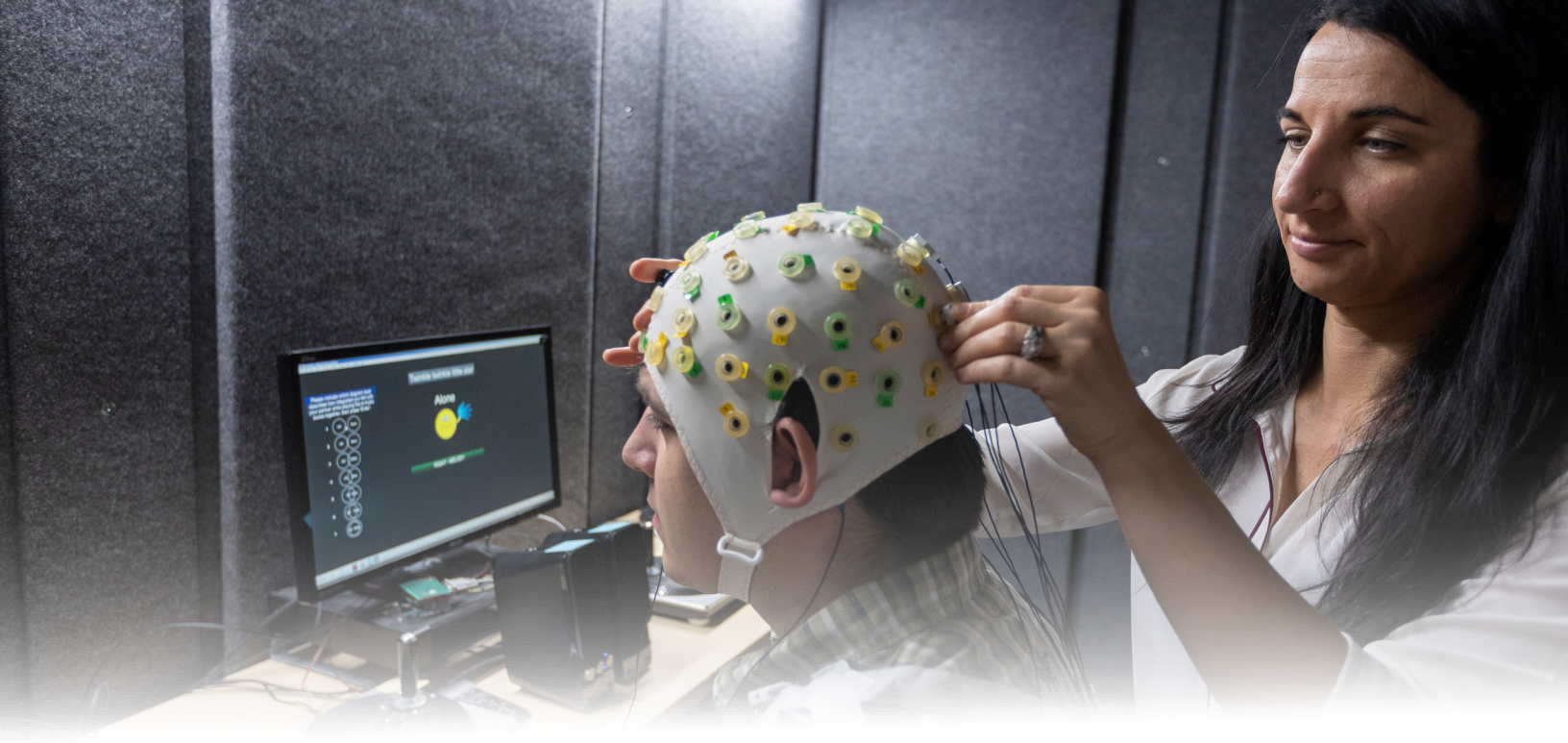
Learn more about the BMF program.

BIOCHEMISTRY, MICROBIOLOGY, AND IMMUNOLOGY (BMI)

Four-year or Honours degree

This program focuses on the molecular and cellular components of the life sciences including microbial physiology, microbial genetics and pathogenesis, protein structure and function, molecular biology, virology, tumor biology and cancer, immunology, and immunopathogenesis. Flexibility in course selection allows you to take a diverse or focused approach in the courses BMI has to offer.

Learn more about the BMI program.



BIOMEDICAL NEUROSCIENCE (BMNS)

Four-year or Honours degree

This program includes education in many of the major topics in neuroscience including molecular and cellular neuroscience, systems and sensory neuroscience, behavioural and cognitive neuroscience, neurophysiology, and neuroanatomy.

Learn more about the BMNS program.

CELLULAR, PHYSIOLOGICAL, AND PHARMACOLOGICAL SCIENCES (CPPS)

Four-year or Honours degree

This program includes the disciplines of cell and developmental biology, gross anatomy and histology, physiology, and pharmacology. These life science disciplines provide a comprehensive understanding of the functions and mechanisms of actions of the cells and major systems of the human body, and of the effects and mode of action of chemicals which change the major systems of the body.

Learn more about the CPPS program.

INTERDISCIPLINARY BIOMEDICAL SCIENCES (ID BMSC)

Four-year or Honours degree

The interdisciplinary major provides flexibility for students who seek a broader combination of biomedical science disciplines not represented with the standard majors.

Learn more about the ID BMSC program.

Applying for a BSc (BMSC) Major

When you are admitted to the BSc (BMSC) program, your major is automatically set as General. If you did not received direct entry into the program, students can apply to transfer into the BSc (BMSC) program using the **Arts and Science Biomedical Sciences Student Transfer Form.**

Applying to a Three-year Biomedical Foundations (BMF) major

Once accepted in the BSc (BMSC) program, you can switch to the three-year BMF at any time through the **A&S Student Inquiry Form**.

Applying for a Four-year or Honours BMI, BMNS, CPPS, or ID BMSC major

It is important to gain exposure to the different biomedical sciences areas before deciding on a major, so you must complete all the M4 core requirements to become eligible to apply to a BMSC major.

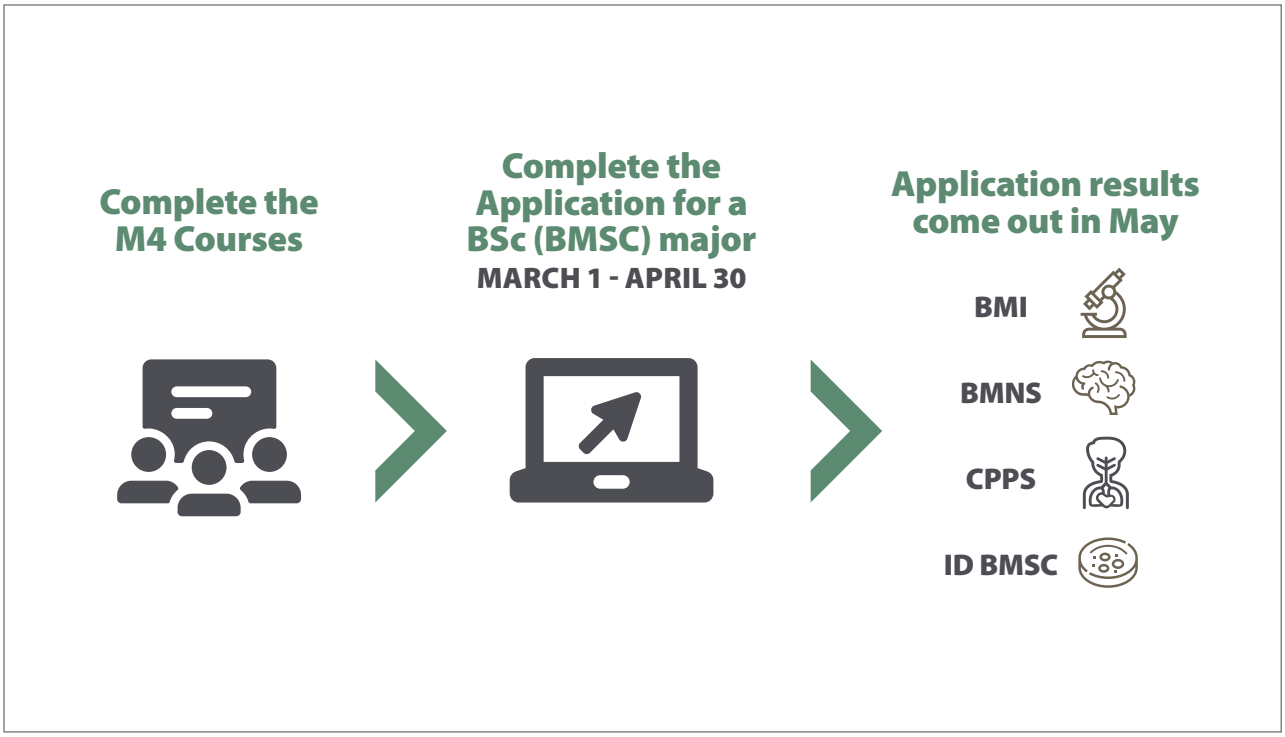
M4 Core Requirements (24 credit units)

- **BMSC 200.3** Biomolecules
- **BMSC 207.3** Human Body Systems I
- **BMSC 208.3** Human Body Systems II
- **BMSC 210.3** Microbiology
- **BMSC 220.3** Cell Biology
- **BMSC 230.3** Metabolism
- **BMSC 240.3** Laboratory Techniques
- **CHEM 250.3** Introduction to Organic Chemistry

The **application for Major** is open annually from March 1st to April 30th.

In the application, you will rank your preference of majors. Once the application closes, student eligibility is checked and placement in majors is ranked if necessary.

You will be informed via your USask email of your placement at the beginning of May after you have applied for a major.



BMSC Majors with Limited Space

An application process is used for the BMSC majors because some have limited capacity. Biomedical Neuroscience (BMNS) and the Interdisciplinary Biomedical Science (ID BMSC) majors each have limited availability (40 seats).

If student demand is greater than the major's capacity, all eligible students will be ranked by their average in the M4 courses. The top students will be accepted into the major of first choice and the remaining placed in their second choice. Note that taking courses from the ID BMSC or BMNS major requirements does not guarantee acceptance into the program

Academic Advising

Academic advisors offer advice, guidance, and strategies regarding your academic progress and planning. We suggest you meet with a BMSC Academic Advisor once a year throughout your studies and anytime you have questions about deciding on a BMSC major, course planning, honours, or concerns about your academic experience.

Though academic advising is a collaborative process, you are ultimately responsible for monitoring and managing your own program as you progress through your degree. Academic advisors from both BMSC and Arts & Science are available to assist you with your planning and understanding of your program.

You can book an academic advising appointment on the **BMSC website**.

Academic Advising Appointments

How to prepare for your advising appointment:

- Ensure you're familiar with your planned major and the requirements in the **program catalogue**.
- Familiarize yourself with the **College of Arts and Science academic policies**; you'll find helpful information about retakes, honours, average requirements etc. Write down any questions you may have about them.
- Bring a draft of your planned course timetable to map out your progress. The academic advisor can provide suggestions and review your planned major courses.
- Write down your questions and thoughts and bring them to the appointment to ensure you gather all the information you need. Consider what you want to gain from the appointment.
- Bring your laptop/tablet or notebook to take notes during the meeting.

How to apply the information gained from an advising appointment:

- Review your notes from the appointment and highlight any important deadlines in your calendar.
- Email any follow-up questions to the academic advisor or book a follow-up appointment.

Flexible Schedule Options

If you decide to complete your degree in five years instead of four, you should be aware that this might affect your ability to get into certain professional programs or graduate schools. Some non-USask medical schools, for example, require that you complete your undergraduate degree in four years. Ensure that you are aware of the admission requirements of the programs to which you may apply.

FLEXIBILITY IN THE 2-YEAR SEQUENCE AND DEGREE PLANNING

Year Two in the BMSC two-year sequence includes multiple 200-level BMSC introductory courses. You may choose to extend your 2-year sequence over three years, which results in applying for your BMSC major in 3rd year. If you are considering this option, it is recommended to book with the BMSC Academic Advisor to discuss sequencing options for your planned major.

Prerequisites are an important factor when determining which courses have flexibility. The following courses are critical to take in 1st year to progress with your BMSC classes.

CRITICAL FIRST-YEAR COURSES:

The following courses should be a priority if you are planning to extend your first two years over three years:

- BIOL 120: This course is one of the prerequisites for multiple 200-level BMSC courses
- CHEM 112: This course is one of the prerequisites for BMSC 200
- BMSC 200: This course is a pre/corequisite for all other 200-level BMSC courses

200-LEVEL BMSC SPRING AND SUMMER COURSES AVAILABLE

You can help make your second year lighter without adding an additional year, by taking M4 core courses as spring and/or summer courses between your first and second year. The following BMSC M4 core courses are offered over spring and summer and are web-based, which allows you the flexibility to study outside of Saskatoon. Note that while these courses offered in spring and/or summer are web-based, they may include in-person exams.

USask **Flexible Learning** can provide more information about options for writing exams off campus, if possible. Ensure you explore this option well in advance of your exams or planned registration to check criteria eligibility and process.

BMSC M4 CORE COURSE SPRING & SUMMER OFFERINGS

M4 COURSE	TERM OFFERED		
	SPRING TERM	SUMMER TERM	SPRING/SUMMER MULTI-TERM
BMSC 200			■
BMSC 207	■		
BMSC 208		■	
BMSC 210			■
BMSC 230			■

Course Planning Sheet for 4-Year Majors

Courses at the 300- and 400-level tend to reach their registration capacity quickly. It is highly recommended that students carefully plan their schedule in advance and register immediately when their registration window opens to secure desired course options. Delayed registration can result in the inability to secure seats in required courses. The BMSC Academic Advisor can help plan first choice classes and secondary choice classes, so students are prepared with a parallel plan if a class fills.

Students have 10 years from the time they start their program to complete the program requirements based on the academic year in which they started. Students can change their academic program year but cannot pick requirements from multiple academic program years.

Biochemistry, Microbiology, and Immunology

BMI 4-Year ~Biochemistry, Microbiology, and Immunology~

2025-2026 calendar year — **Worksheet - for reference only**

M1 College Requirement (15 cu)

English Language Requirement (6 cu)

Indigenous Learning Requirement (3 cu)

Quantitative Reasoning Requirement (6 cu)

Choose 3 cu	*Choose 3 cu*
MATH 110.3	STAT 245.3
MATH 125.3	STAT 246.3
	PLSC 214.3

M2 Breadth Requirement (3 cu)

M3 Cognate Requirement (21 cu)

BIOL 120.3	PHYS 115.3	
CHEM 112.3	PHYS 117.3 *or* PHYS 125.3	
CHEM 115.3	PHIL 140.3	
Choose 3 cu		
HLST 110.3	PSY 120.3	
PSY 121.3	SOC 111.3	SOC 112.3

Recommended sequencing for M4 and M5 requirements:

- Priority 1st year courses
- Priority 2nd year courses
- 3rd year courses
- 4th year courses
- Flexible 3rd and 4th courses depending on planning and prerequisites
- Courses that are no longer active

Review your course plans with the BMSC Academic Advisor, ensure you check course times/terms *and* course prerequisites when planning your degree.

Refer to the program catalogue for official degree requirements: *programs.usask.ca* .

Minimum of 120 credit units required with 66 at the senior level.

Required CWA to meet graduation standards: 60% overall; 63% major.

M4 Core Requirements (24 cu) — **Courses must be completed before applying for a major**

BMSC 200.3	**BMSC 208.3**	**BMSC 220.3**	**BMSC 240.3**
BMSC 207.3	**BMSC 210.3**	**BMSC 230.3**	**CHEM 250.3***

M5 Major Requirements (36 cu)

BMIS 340.3	*Choose 15 cu - at least 9 cu must be at the 400-level*				
BMIS 400.0	BMIS 308.3	**BMIS 325.3**	**BMIS 417.3**	**BMIS 435.3**	**BMIS 489.6**
BMSC 320.3	**BMIS 317.3**	**BMIS 380.3**	**BMIS 423.3**	**BMIS 436.3**	**BMIS 498.3**
	BMIS 319.3	**BMIS 398.3**	**BMIS 425.3**	**BMIS 455.3**	
Choose 3 cu (lab)	**BMIS 321.3**	**BMIS 412.3**	**BMIS 430.3**	**BMIS 487.3**	
BMIS 310.3					
BMIS 390.3	*Choose 9 cu*				
	BIOL 226.3*	CHEM 456.3*	**CPPS 304.3**	FABS 450.3*	
Choose 3 cu	**BIOL 316.3***	**CHEP 350.3***	**CPPS 325.3**	**NEUR 301.3**	
BINF 151.3*	**BIOL 331.3***	**CMPT 451.3***	**FABS 325.3***	**STAT 345.3***	
BINF 351.3*	**BIOL 420.3***	**CPPS 302.3**	**FABS 334.3***	**Any BMSC, BMIS, BIOC, MCIM course at the 300 or 400 level**	
CMPT 140.3*	BIOL 436.3*	**CPPS 303.3**	FABS 430.3*		

M6 Elective Requirement (21 cu)

* indicates major courses offered outside of the BMSC department

Biomedical Neuroscience

There is limited capacity (40 seats) in the Biomedical Neuroscience (BMNS major. Students should not complete third year courses in BMNS unless they have been accepted into the major

BMNS 4-Year ~Biomedical Neuroscience~

2025-2026 calendar year — **Worksheet - for reference only**

M1 College Requirement (15 cu)

English Language Requirement (6 cu)

Indigenous Learning Requirement (3 cu)

Quantitative Reasoning Requirement (6 cu)

Choose 3 cu	*Choose 3 cu*
MATH 110.3	STAT 245.3
MATH 125.3	STAT 246.3
	PLSC 214.3

M2 Breadth Requirement (3 cu)

M3 Cognate Requirement (21 cu)

BIOL 120.3	PHYS 115.3	
CHEM 112.3	PHYS 117.3 *or* PHYS 125.3	
CHEM 115.3	PHIL 140.3	
Choose 3 cu		
HLST 110.3	PSY 120.3	
PSY 121.3	SOC 111.3	SOC 112.3

Recommended sequencing for M4 and M5 requirements:

- Priority 1st year courses
- Priority 2nd year courses
- 3rd year courses
- 4th year courses
- Flexible 3rd and 4th courses depending on planning and prerequisites

Review your course plans with the BMSC Academic Advisor, ensure you check course times/terms *and* course prerequisites when planning your degree.

Refer to the program catalogue for official degree requirements: *programs.usask.ca* .

Minimum of 120 credit units required with 66 at the senior level.

Required CWA to meet graduation standards: 60% overall; 63% major.

M4 Core Requirements (24 cu) — **Courses must be completed before applying for a major**

BMSC 200.3	**BMSC 208.3**	**BMSC 220.3**	**BMSC 240.3**
BMSC 207.3	**BMSC 210.3**	**BMSC 230.3**	**CHEM 250.3***

M5 Major Requirements (36 cu)

CPPS 325.3	**NEUR 301.3**	*Choose 3 cu (lab)*
BIOL 226.3*	**NEUR 334.3**	**CPPS 331.3**
CPPS 304.3	**NEUR 350.3**	**CPPS 308.3**
CPPS 306.3	**NEUR 405.3**	
Choose 6 cu		*Choose 3 cu*
BIOL 430.3*	**NEUR 420.3**	**PSY 242.3***
KIN 422.3*	**NEUR 480.3**	**PSY 246.3***
NEUR 404.3	**PSY 448.3***	**PSY 252.3***

M6 Elective Requirement (21 cu)

* indicates major courses offered outside of the BMSC department

Cellular, Physiological, and Pharmacological Sciences

CPPS 4-Year ~Cellular, Physiological and Pharmacological Sciences~

2025-2026 calendar year — **Worksheet - for reference only**

M1 College Requirement (15 cu)

English Language Requirement (6 cu)

Indigenous Learning Requirement (3 cu)

Quantitative Reasoning Requirement (6 cu)

Choose 3 cu	*Choose 3 cu*
MATH 110.3	STAT 245.3
MATH 125.3	STAT 246.3
	PLSC 214.3

M2 Breadth Requirement (3 cu)

M3 Cognate Requirement (21 cu)

BIOL 120.3	PHYS 115.3	
CHEM 112.3	PHYS 117.3 *or* PHYS 125.3	
CHEM 115.3	PHIL 140.3	
Choose 3 cu		
HLST 110.3	PSY 120.3	
PSY 121.3	SOC 111.3	SOC 112.3

Recommended sequencing for M4 and M5 requirements:

- Priority 1st year courses
- Priority 2nd year courses
- 3rd year courses
- 4th year courses
- Flexible 3rd and 4th courses depending on planning and prerequisites

Review your course plans with the BMSC Academic Advisor, ensure you check course times/terms *and* course prerequisites when planning your degree.

Refer to the program catalogue for official requirements: *programs.usask.ca* .

Minimum of 120 credit units required with 66 at the senior level.

Required CWA to meet graduation standards: 60% overall; 63% major.

M4 Core Requirements (24 cu) — **Courses must be completed before applying for a major**

BMSC 200.3	**BMSC 208.3**	**BMSC 220.3**	**BMSC 240.3**
BMSC 207.3	**BMSC 210.3**	**BMSC 230.3**	**CHEM 250.3***

M5 Major Requirements (36 cu)

BIOL 226.3*	**CPPS 304.3**	*Choose 3 cu*	*Choose 3 cu (lab)*
CPPS 302.3	**CPPS 325.3**	**CPPS 306.3**	**CPPS 331.3**
CPPS 303.3		**CPPS 307.3**	**CPPS 308.3**

Choose 9 cu		*Choose 6 cu*		
BMSC 320.3	**CPPS 330.3**	**CPPS 337.3** *or* **CPPS 417.3**	**CPPS 405.3**	**NEUR 480.3**
BMIS 319.3	**NEUR 301.3**	**CPPS 400.3**	**CPPS 406.3**	
BMIS 321.3	**NEUR 350.3**	**CPPS 401.3**	**CPPS 407.3**	
CHEP 350.3*	**PATH 205.3***	**CPPS 402.3**	**CPPS 415.3**	
CPPS 310.3	**TOX 300.3***	**CPPS 403.3**	**NEUR 404.3**	

M6 Elective Requirement (21 cu)

* indicates major courses offered outside of the BMSC department

Interdisciplinary Biomedical Sciences

There is limited capacity (40 seats) in the Interdisciplinary Biomedical Sciences (ID BMSC) major. Students should not complete third year courses in ID BMSC unless they have been accepted into the major.

ID BMSC 4-Year ~Interdisciplinary Biomedical Sciences~

2025-2026 calendar year — **Worksheet - for reference only**

M1 College Requirement (15 cu)

English Language Requirement (6 cu)

Indigenous Learning Requirement (3 cu)

Quantitative Reasoning Requirement (6 cu)

Choose 3 cu	*Choose 3 cu*
MATH 110.3	STAT 245.3
MATH 125.3	STAT 246.3
	PLSC 214.3

M2 Breadth Requirement (3 cu)

M3 Cognate Requirement (21 cu)

BIOL 120.3	PHYS 115.3	
CHEM 112.3	PHYS 117.3 *or* PHYS 125.3	
CHEM 115.3	PHIL 140.3	
Choose 3 cu		
HLST 110.3	PSY 120.3	
PSY 121.3	SOC 111.3	SOC 112.3

Recommended sequencing for M4 and M5 requirements:

- Priority 1st year courses
- Priority 2nd year courses
- 3rd year courses
- 4th year courses
- Flexible 3rd and 4th courses depending on planning and prerequisites
- Courses that are no longer active

Review your course plans with the BMSC Academic Advisor, ensure you check course times/terms *and* course prerequisites when planning your degree.

Refer to the program catalogue for official dgree requirements: *programs.usask.ca* .

Minimum of 120 credit units required with 66 at the senior level.

Required CWA to meet graduation standards: 60% overall; 63% major.

M4 Core Requirements (24 cu) — **Courses must be completed before applying for a major**

BMSC 200.3	**BMSC 208.3**	**BMSC 220.3**	**BMSC 240.3**
BMSC 207.3	**BMSC 210.3**	**BMSC 230.3**	**CHEM 250.3***

M5 Major Requirements (36 cu)

BMSC 320.3	**CPPS 304.3**	*Choose 3 cu (lab)*	
BMSC 405.3	**CPPS 337.3**	**BMIS 310.3**	**CPPS 331.3**
BMIS 321.3	**PATH 205.3***	**BMIS 340.3**	**CPPS 308.3**
CHEP 350.3*		**BMIS 390.3**	

At least 6 cu must be at the 400 level from the following two sections

Choose 9 cu	*Choose 9 cu*
ACB - 300-Level, 400-Level	BIOC - 300-Level, 400-Level
CPPS - 300-Level, 400-Level	**BMIS - 300-Level, 400-Level**
NEUR - 300-Level, 400-Level	**BMSC - 300-Level, 400-Level**
PHPY - 300-Level, 400-Level	MCIM - 300-Level, 400-Level

M6 Elective Requirement (21 cu)

* indicates major courses offered outside of the BMSC department

Links to Important Documents, Key Academic Policies, and Student Supports

1. Academic Orientation

All new Arts and Science students should complete **Academic Orientation** after accepting their offer. These asynchronous modules will answer the following questions: Where do I go for help?; What are the expectations at university?; What classes do I take?; How do I sign up for classes?. Completion should take 30 to 45 minutes, and you can revisit the information any time you want.

2. Arts and Science Academic policies

These policies govern the overall degree and program and can be found in the **program catalogue**. Any questions about policies can be directed to the Arts and Science Undergraduate Student Office. Some important policies are **Repeating Courses** and **Promotion Standards for Degree Programs**.

3. USask Academic Integrity

The University of Saskatchewan (USask) community values integrity, honesty, and ethical behavior. Academic integrity is a shared value in higher education around the world. The International Centre for Academic Integrity defines academic integrity as a commitment to six fundamental values: honesty, trust, fairness, respect, responsibility and courage. The USask Library offers a **tutorial on academic integrity**.

The bottom line is that you are expected to do all aspects of your schoolwork in an ethical manner. The following are some key rules: submitting only your own work for academic credit, properly citing the work of others, and following all exam (test) / lab / assessment rules.

Academic misconduct is the term the university uses to describe cheating. It is not tolerated. You are responsible for understanding the **USask Student Academic Misconduct Regulations**. The regulations define the **various types of academic misconduct**. If it's discovered that you are cheating, you will be disciplined.

4. Academic Courses Policies

Please become familiar with USask **academic courses policies**.

5. Student Supports

Usask offers a wide array of student support services, encompassing academic, health and personal well-being. Whether you are looking for academic, cultural, spiritual or personal support, health and counselling services or services to help you with your day-to-day activities, Usask **Student Supports** page can help.

Registration preparation

1. Review the using the program requirements for your major using the **Course and Program catalogue**.
2. Determine which courses remain to be completed and prioritize these courses for the upcoming year. We encourage students to use their Degree Works with the Course and Program Catalogue to plan courses. Please note that Degree Works is an aiding tool but not the official program requirements. Official program requirements are listed in the Course and Program catalogue. You are encouraged to book an academic advising appointment to review your registration plan.
3. Create a draft timetable and search the courses based on their current availability. It is important to be aware that course times and offerings are never guaranteed and are subject to change, but this initial planning helps to create a framework to review later. Note that courses for the upcoming Fall and Winter Terms are searchable each year starting in May, and for the upcoming Spring and Summer Terms each year starting in January.
4. Ensure no time conflicts exist by rechecking course times before registration opens.
5. Plan back-up courses since 300 and 400-level courses tend to fill quickly.
6. It's important that you know the **class registration and withdrawal deadlines** so you are aware when you can add or drop a course.

Registration for Fall and Winter term classes opens in June. Each student is assigned a registration window based on their credit count which aligns to a specific year of study. More details can be found on the **USask registration overview page**.

BMSC Course Updates

You will find all current information regarding course and prerequisite changes, major-specific announcements, and details about honours degrees for BMSC students on the **BMSC webpage**.

Research Opportunities

USask biomedical sciences offers research opportunities through coursework, honours courses, and summer research.

Experiential Learning Courses:

Courses that provide hands-on learning through Course-Based Undergraduate Research Experience (CURE)

BMIS 380.3: Team Based Experimental Microbiology

This is a Course-based Undergraduate Research Experience (CURE) course. Students will be provided with a collection of results and observations from suitable experimental systems provided by local faculty. In teams of up to four, students will be coached in developing a "next step" hypothesis and designing protocols to test their hypothesis. Once the experiment has been designed and approved, each team will determine reagents required, prepare necessary reagents, set up equipment, carry out the experiments, analyze the results and prepare a formal journal-style report that describes the experimental purpose, the methods, the results and the conclusions.

CPPS 331.3: Methods in Cell and Developmental Biology

This hands-on course provides students with experience in multiple lab techniques common to cell biology using eukaryotic cells which includes tissue culture and fluorescence microscopy. Teams of students are guided to apply the scientific method to create their own hypotheses and experiment(s) using mammalian cells. This provides an authentic research experience and allows students to develop skills in tissue culture techniques, collaborative problem solving, analysis of original data, and strengthening scientific reporting skills.

Honours Undergraduate Research Courses:

An Honours Program is intended for students who want more in depth research experience in their major subject of Honours and who are able to meet the minimum average requirements. It is especially suitable for those who plan to proceed to graduate studies leading to the degrees of Master of Science (M.Sc.) or Doctor of Philosophy (Ph.D.) or for those who are interested in a career in research.

The honours programs in CPPS, BMI, BMNS and ID BMSC each include a specific undergraduate research course that provides an opportunity to work on a research project with guidance from a faculty member.

CPPS 432.6, BMIS 489.6, NEUR 432.6,: Honours Undergraduate Research Courses

Students secure their supervisor who will oversee their research project. You can learn about each individual course and their individual requirements on the BMSC website.

You will find more details about applying for Honours, eligibility, and important timelines for securing a supervisor on the **BMSC website.**

Summer Research Opportunities:

Information on summer research opportunities is sent to students via PAWS announcements at the beginning of the winter term. Please check your inbox for valuable information. Reach out to BMSC faculty who are doing research you find interesting early in the school year to find out about any opportunities that you can apply for.

NSERC Undergraduate Student Research Awards

Program supports more than 3,000 students annually and is administered jointly by Canada's three granting agencies: the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canadian Institutes of Health Research (CIHR), and the Social Sciences and Humanities Research Council (SSHRC).

Biomedical Summer Research Projects

The Biomedical Summer Research Projects initiative facilitates the research training of undergraduate students enrolled in the following programs: Biomedical Foundations, Biochemistry, Microbiology and Immunology, Cellular, Physiological, and Pharmacological Sciences, Interdisciplinary Biomedical Science, and Biomedical Neuroscience.

Getting Involved

BMSC Welcome Week Event

Come join us at the "Welcome to the BMSC Program" event in September geared for first and second year BMSC students. During this event, you'll have an opportunity to meet the BMSC department heads, undergraduate chairs, academic advisors, and student groups. We'll provide information about the majors offered in the BMSC program and how to apply for a major. This event is an informative and wonderful opportunity to connect with fellow BMSC students and gain valuable insights!

BMSC Student Groups

The BMSC student groups help to build a sense of community that can enhance your university experience. These groups host events like research nights, social gatherings, graduation parties and clothing sales. Consider becoming a member of a student group!

- **Anatomy, Physiology and Pharmacology student Association (APPSA)** - appsa@ussu.ca Instagram: usaskappsa
- **Biochemistry, Microbiology and Immunology Student Association (BMISA)** - bmisa@ussu.ca Instagram: usask.bmisa
- **Neuroscience Students' Society (NSS)** - nss@ussu.ca Instagram: usask_nss

Course listings for courses offered by the Departments of Anatomy, Physiology and Pharmacology (APP) and Biochemistry, Microbiology and Immunology (BMI). The ↗ icon indicates courses listed in the M4 core and M5 major that are not offered through the departments of APP and BMI.

M4 Core Requirements

BMSC 200.3 Biomolecules

BMSC 207.3 Human Body Systems I

BMSC 208.3 Human Body Systems II

BMSC 210.3 Microbiology

BMSC 220.3 Cell Biology

BMSC 230.3 Metabolism

BMSC 240.3 Laboratory Techniques

CHEM 250.3 Introduction to Organic Chemistry ↗

Alphabetical M5 course list across all majors

BINF 151.3 Computing in the Biological Sciences ↗

BINF 351.3 Introduction to Bioinformatics ↗

BIOL 226.3 Genes to Genomics ↗

BIOL 316.3 Genetic Analysis of Eukaryotes ↗

BIOL 331.3 Plant Physiology ↗

BIOL 420.3 Molecular Biology of Plants ↗

BIOL 430.3 Neurobiology of Behaviour ↗

BIOL 436.3 ↗

BMIS 308.3 An Introduction to Microbial Pathogens

BMIS 310.3 Proteins and Enzymes

BMIS 317.3 Introductory Virology

BMIS 319.3 Vaccinology Principles and Practice

BMIS 321.3 Introduction to Immunology

BMIS 325.3 Fundamentals of Bacteriology

BMIS 340.3 Introductory Molecular Biology

BMIS 380.3 Team Based Experimental Microbiology

BMIS 390.3 Experimental Microbiology and Immunology

BMIS 398.3 Special Topics

BMIS 400.0 Seminar in Biochemistry Microbiology and Immunology

BMIS 412.3 Methods for Engineering Designer Proteins

BMIS 417.3 Molecular Virology

BMIS 420.3 Antimicrobial Resistance of One Health Pathogens

BMIS 423.3 Advanced Immunology

BMIS 425.3 Molecular Basis of Microbial Pathogenesis

BMIS 430.3 Biochemistry of Cancer

BMIS 435.3 Human Metabolism and Disease

BMIS 436.3 Advanced Molecular Biology

BMIS 450.3 Molecular Bases of Symbiosis and Microbiomes

BMIS 455.3 Mechanisms of Protein Function

BMIS 487.3 Microbial Genetic Systems

BMIS 489.6 Research Project in Biochemistry Microbiology and Immunology

BMIS 498.3 Special Topics

BMSC 320.3 Nucleic Acids From Central Dogma to Human Disease

BMSC 405.3 Current Topics in Biomedical Science

CHEM 456.3 ↗

CHEP 350.3 Introduction to Epidemiology ↗

CMPT 140.3 Introduction to Creative Computing ↗

CMPT 451.3 Modelling and Algorithms for Biological Systems ↗

CPPS 302.3 Human Physiology Transport Systems

CPPS 303.3 Endocrinology & Human Reproduction

CPPS 304.3 Introduction to Pharmacology

CPPS 306.3 Systems Pharmacology I Cardiorespiratory Renal Gastrointestinal and Neuropharmacology

CPPS 307.3 Systems Pharmacology II Chemotherapy Immune and Endocrine Pharmacology

CPPS 308.3 Experimental Basis of Physiology and Pharmacology

CPPS 310.3 Basic Human Anatomy

CPPS 325.3 Advanced Cell Biology

CPPS 330.3 The Principles of Developmental Biology

CPPS 331.3 Methods in Cell and Developmental Biology

CPPS 337.3 Experimental Design and the Health Care System

CPPS 400.3 Clinical and Biomedical Imaging

CPPS 401.3 Human Skeletal Biology Across the Lifespan

CPPS 402.3 Immunometabolism in Health and Disease

CPPS 403.3 Physiological Genomics and Pharmacogenetics

CPPS 405.3 Current Topics in Cellular Physiological and Pharmacological Sciences

CPPS 406.3 Comparative Vertebrate Histology

CPPS 407.3 Advances in Anatomy and Histology

CPPS 415.3 Advances in Cardiovascular Physiology and Pharmacology

CPPS 417.3 The Business of Health Care

CPPS 432.6 Undergraduate Research Project in Cellular Physiological and Pharmacological Sciences

CPPS 498.3 Special Topics

CPPS 498.3 Everything Changed When They Wrote Science as Story

CPPS 498.3 Integrative Physiology, Metabolism, and Metabolic Diseases

FABS 325.3 Food Microbiology and Safety

FABS 334.3 Industrial Microbiology

FABS 430.3

FABS 450.3

KIN 422.3 Motor Control of Neurological Conditions

NEUR 301.3 Fundamental Neuroscience Intercellular Communication

NEUR 334.3 Introductory Neuroanatomy

NEUR 350.3 Fundamental Neuroscience

NEUR 404.3 Neurophysiology and Neuropharmacology

NEUR 405.3 Current Topics in Neuroscience

NEUR 420.3 Drugs and Behaviour

NEUR 432.6 Undergraduate Research Project in Neuroscience

NEUR 480.3 Neurobiology of Learning and Memory

PATH 205.3 Survey of Pathology

PSY 242.3 Physiological Psychology

PSY 246.3 Introduction to Human Neuropsychology

PSY 252.3 Perceptual Processes

PSY 448.3 Advanced Seminar in Neuroscience

STAT 345.3 Design and Analysis of Experiments

TOX 300.3 General Principles of Toxicology