CCNM
CANADIAN COLLEGE OF NATUROPATHIC MEDICINE

SBC100 COURSE OUTLINE Summer 2025

Course:	Biochemistry
Course Code:	SBC100
Times & Location:	Online Tutorial: Wednesdays 6:30 – 7:30 pm EST
Course Coordinator:	Dr. Melanie Facca, BSc, MS, ND
Instructor:	Dr. Melanie Facca, BSc, MS, ND
Office Location:	Online

Evaluation:

	WEIGHTING	TEST DATE / DUE DATE
Module Quizzes	10%	10 Self-Scheduled Quizzes
***Participation**	10%	N/A
Assignments	10%	3 Assignments (3.33% each) all due Friday August 8th, 2025
Midterm Test	30%	**Friday June 20th, 2025**
Final Exam	40%	**Friday August 8th, 2025**

*Participation will be graded on tutorial attendance, participation in the tutorial and participation in the Question Forum for this course.

Plagiarism and cheating are academic offenses and will be treated seriously by the College. Students should refer to the College's policies on academic misconduct posted on in the Academic Calendar.

Required Text (included):

McMurray, Ballantine, Hoeger & Peterson. Fundamentals of General, Organic and Biological Chemistry: 2017, 8th Edition.). Published by Pearson.

Course Description:

SBC100 (Biochemistry) is a three-credit, 14-week introductory biochemistry course designed to build on knowledge acquired in SGC100. In SBC100, students will learn the fundamental concepts of biochemistry as it pertains to the human body. The focus of this course is on the structure and metabolism of macromolecules such as carbohydrates, lipids, proteins, and nucleic acids. Essential biochemistry concepts including glycolysis, protein synthesis, enzymes, the citric acid cycle, the electron transport chain and ATP synthesis are thoroughly investigated.

The application of biochemistry to naturopathic principles is integrated throughout the course; providing students with a unique opportunity to learn biochemistry within the context of naturopathic medicine. Incorporation of a virtual laboratory component enhances and re-enforces course material and allows the student to experience a practical application of biochemistry while maintaining the convenience of online learning. SBC100 provides the necessary pre-requisite knowledge required for the ND program.

Prerequisites

General Chemistry (SGC100) or an equivalent course from a recognized university is a prerequisite for Biochemistry, SBC100.

Course Outcomes:

On completion of the course the student will be expect to:

- demonstrate a basic understanding of biochemistry.
- demonstrate knowledge of the fundamental laws and vocabulary as they pertain to biochemistry.
- apply biochemistry to Naturopathic principles.
- demonstrate knowledge of the fundamental biochemical processes of the human body.
- demonstrate knowledge of the chemical reactions of biochemistry.
- demonstrate knowledge of the 3 major biochemical macromolecules; carbohydrates, lipids and proteins.
- demonstrate knowledge of the fundamental biochemical processes of the human body including, but not limited to, glycolysis, Kreb's cycle and the electron transport chain.
- apply knowledge of biochemistry to a clinical setting.
- demonstrate knowledge of the principles and process of the chemical experiment.

Pedagogy:

The course is delivered in a blended learning style which combines online self-study modules with weekly live interactive online tutorial sessions from 6:30pm – 7:30pm EST with the course instructor.

Evaluation:

A passing grade is 60%. Evaluations/assessments will consist of 10 quizzes per module (10%), participation (10%), three assignments (10%), one midterm test (30%) and a final exam (40%). The midterm and final exams are conducted online. Passing the final exam is not a requirement of passing the course.

SBC100 Biochemistry

Course Schedule

Class/ Week #	Date	Module #	Topic
1	Wednesday May 7, 2025	Introduction	Introduction to course
2	Wednesday May 14, 2025	Module 1	Organic Chemistry Overview (selected textbook sections)
3	Wednesday May 21, 2025	Module 1 cont'd	Organic Chemistry Overview (selected textbook sections)
4	Wednesday May 28, 2025	Module 2	Amino Acids & Proteins (Ch 18)
5	Wednesday June 4, 2025	Module 3	Enzymes & Vitamins (Ch 19)
6	Wednesday June 11, 2025	Module 4	Carbohydrates (Ch 20)
7	Friday June 20, 2025	Midterm Module 5	***No Webinar (Midterm covers Modules 1-4)*** The Generation of Biochemical Energy (Ch 21)
8	Wednesday June 25, 2025	Module 5	Carbohydrate Metabolism (Ch 22)
9	Wednesday July 2, 2025	Module 6	Lipids (Ch 23)
10	Wednesday July 9, 2025	Module 7	Lipid Metabolism (Ch 24)
11	Wednesday July 16, 2025	Module 8	Protein and Amino Acid Metabolism (Ch 25)
12	Wednesday July 23, 2025	Module 9	Nucleic Acids and Protein Synthesis (Ch 26)
13	Wednesday July 30, 2025	Module 10	Review
14	Friday August 8, 2025	Final Exam	***No Webinar (Final Exam is cumulative)***

The Academic Department reserves the right to make schedule changes.

SBC100 Biochemistry
Session Learning Outcomes

Tutorial #1: Week 1

Introduction to SBC100 Biochemistry

By the end of this session, the student will be able to:

- Navigate Moodle SBC100 course shell and ZOOM programs
- Understand course requirement, including textbook readings, evaluations and deadlines
- Begin Module 1

Deadline: Post a brief introduction on "Please introduce yourself" forum before the start of the tutorial.

Tutorial #2: Week 2

Module 1: Organic Chemistry Overview

Deadline: Complete first half Module 1 before the start of the tutorial.

Tutorial #3: Week 3

Module 1: Organic Chemistry Overview cont'd

Deadline: Complete Module 1 before the start of the tutorial.

Tutorial #4: Week 4

Module 2: Amino Acids & Proteins

Deadline: Complete Module 2 before the start of the tutorial.

Tutorial #5: Week 5

Module 3: Enzymes & Vitamins

Deadline: Complete Module 3 before the start of the tutorial.

Tutorial #6: Week 6

Module 4: Carbohydrates

Deadline: Complete Module 4 before the start of the tutorial.

Week 7 *There is no tutorial the week of the midterm. The midterm covers modules 1-4 inclusive.

Tutorial #7: Week 8

Module 5: The Generation of Biochemical Energy

Deadline: Complete Module 5 before the start of the tutorial.

Tutorial #8: Week 9

Module 6: Carbohydrate Metabolism

Deadline: Complete Module 6 before the start of the tutorial.

Tutorial #9: Week 10

Module 7: Lipids

Deadline: Complete Module 7 before the start of the tutorial.

Tutorial #10: Week 11

Module 8: Lipid Metabolism

Deadline: Complete Module 8 before the start of the tutorial.

Tutorial #11: Week 12

Module 9: Protein & Amino Acid Metabolism

Deadline: Complete Module 9 before the start of the tutorial.

Tutorial #12: Week 13

Module 10: Nucleic Acids & Protein Synthesis

Deadline: Complete Module 10 before the start of the tutorial.

Week 14* There is no tutorial the week of the Final Exam (the final exam is cumulative)