

Syllabus

HNSC 3310 Macronutrients in Human Health (Fall 2022)



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COURSE DETAILS

Course Title & Number: HNSC 3310 Macronutrients and Human Health

Number of Credit Hours: 3

Class Times & Days of Week: 10:00 – 11:15 am, Tuesdays and Thursdays, Sept 8-Dec 8 [no classes

on November 8 and 10 during the Fall Term Break]

Location for classes:

325 St. Paul's College

Note: Durng the term, if the instructor has COVID symptoms or an illness which prevents in-person teaching, students will be notified by email for the class (or classes) to be done virtually and/or with

recorded material until the instructor can return to in-person teaching

in the classroom. If a significant proportion of students are

experiencing COVID-19 symptoms or illnesses, then options for this class to go to a hybrid or virtual format will be discussed with the Department Head and Dean. Student will receive information by email if there are changes to the scheduling and format of this course for a

class or classes.

Pre-Requisites: [CHEM 2780 or MBIO 2780 (002.278 or 060.278) or CHEM 2370 or

MBIO 2370 (002.237 or 060.237)] and [HNSC 2140 (030.214)]

and [BIOL 1412 or 2420 (ZOOL 1330 or 2540, 022.133 or 022.254)]

Instructor Contact Information

Dr. Carla Taylor

Instructor(s) Name & Preferred Form of Address:

You can address me as Professor or by first name (Carla)

Fort Garry campus: TBA Duff Roblin Building

Office Location: Primary office: R2034 St. Boniface Research Centre

Office Hours or Availability: Available immediately before class (for quick questions and without

prior arrangements) and immediately after class (for approximately

5 minutes as I have another class at 11:30),

AND by appointment either in-person on Fort Garry campus OR by video conference (arrange a time by email – *please put HNSC*

3310 in the subject line of your email),

AND drop-in office hours (via video conference) will be announced

before each test.

Office Phone No. My office number is 204-258-1361 (leave message on voice mail),

however, note that I prefer to be contacted by email to set a time

for a phone call or video conference, and that my response time by email is much quicker.

Email:

Note that I prefer emails for messages and that emails will be responded to more quickly. My email is Carla.Taylor@umanitoba.ca (sending questions by email is fine, or contact me by email to set up an appointment for an in-person appointment or a video conference or a phone call); please put HNSC 3310 in the subject line of your email. My goal is to respond to emails within 24 hours during weekdays.

Note: All email communication must conform to the <u>Communicating</u> with Students university policy.

Contact:

Questions immediately before and immediately after class are an excellent way to clarify material covered in the previous or current class. Book an appointment for more in-depth discussions. There will be 'drop-in' office hours before each test to clarify and discuss course material as you study. Ask questions in class as we cover the material or at the beginning of the next class.

The University of Manitoba campuses are located on original lands of Anishinaabeg, Cree, Oji-Cree, Dakota, and Dene peoples, and on the homeland of the Métis Nation. I respect the Treaties that were made on these territories, I acknowledge the harms of the past, and I dedicate myself to move forward in partnership with Indigenous Peoples in a spirit of reconciliation and collaboration.

Course Description

U of M Course Calendar Description

Macronutrient functions and metabolic roles in human health, including the prevention and pathogenesis of various diseases. Pre-requisites: [CHEM/MBIO 2750 and CHEM 2740 (or the former CHEM/MBIO 2780) or CHEM/MBIO 2710 and CHEM 2720 (or the former CHEM/MBIO 2370 (CHEM 2371)] and [HNSC 2140 and [BIOL 1412 (BIOL 1413) or BIOL 2420 (BIOL 2421)].

General Course Description

The syllabus provides information about the course goals and content, the course schedule and requirements, and how you will be evaluated. Students are expected to use the syllabus to plan their class preparation and studying with respect to the schedule of course topics (textbook readings, review of previous course material in nutrition, biochemistry, physiology, foods, etc) and the schedule for course evaluation (tests, assignment).

Course Goals

• To understand the physiological importance of macronutrient (carbohydrates, lipids and protein) metabolism and function in the human body, including factors that affect dietary requirements.

- To understand macronutrient metabolism and function in relationship to the metabolic abnormalities of various diseases (diabetes, cardiovascular, Celiac, carbohydrate intolerances, etc.), and the roles of dietary prevention and nutritional management in these disease states.
- To develop a sound knowledge base that can be applied to a wide variety of practical situations.

This course will also meet the following Foundational Knowledge Content Areas for Dietetics Education.

This dietetic education program is an accredited program recognized by the Partnership for Dietetic Education and Practice (PDEP) and prepares students for eligibility for registration with a provincial dietetics regulatory body.

Highest level achieved: 1= demonstrate broad knowledge; 2= demonstrate comprehension; 3 = analyze, interpret and apply knowledge

| Content Area | Foundational Knowledge | Cognitive Complexity Level |
|------------------------------------|--|----------------------------------|
| Biochemistry | Major metabolic pathways | 2 |
| | Ingestion, digestion, absorption, metabolism and excretion of nutrients | 3 |
| | Biochemical utilization of nutrients and energy | 3 |
| Human Nutrition across | Nutrient and energy requirements | 2 |
| the Lifespan | Nutrition recommendations and guidelines | 3 |
| | Food sources of nutrients and dietary supplements | 3 |
| | Role of nutrients and other food components in health | 3 |
| Nutrition Assessment | Biochemical parameter interpretation | 3 |
| | Etiology and pathophysiology of nutrition-related diseases | 2 |
| Nutrition Care Process and | Nutrition-related disease management strategies | 3 |
| Medical Nutrition Therapy | Oral, enteral, and parenteral nutrition support | 1 |
| | Complementary and alternative nutrition therapies | 1 |
| | Drug classifications relevant to nutrition and their modes of action | 1 |
| Pharmacology | Common medication side effects and contraindications relevant to nutrition | 1 |
| | Nutrients and nutraceuticals as pharmacological agents | 1 |
| Professional Practice in Dietetics | Role of research and new knowledge | 2 |
| Research and Evaluation | Evidence-informed practice | 1 |

Course Learning Objectives

Upon completion of this course, students should be able to:

1. Integrate the metabolism of macronutrients (carbohydrates, fats, protein) in the context of whole body and inter-organ metabolism.

- 2. Analyze the digestion, absorption, transport, utilization, and excretion of macronutrients when provided with the structure of the compound(s)[could be standard nutrients or compounds present in specially formulated products to increase or decrease energy intake, provide sweetness, etc.] and the route of delivery [oral, enteral or parenteral].
- 3. Predict how macronutrient digestion, absorption, transport, utilization, and/or excretion will be affected if a specified organ(s) is(are) not able to support its normal functions.
- 4. Differentiate the contribution of metabolic pathways to energy production (or storage) during the fed, post-absorptive and fed states, and how this relates to longer term energy balance (weight gain, weight loss).
- 5. Predict how the metabolic pathways are altered if the dietary pattern overemphasizes or underemphasizes a particular macronutrient (carbohydrates, protein, fat).
- 6. Understand how insulin contributes to the regulation of the metabolic pathways and describe how a deficiency of insulin (type 1 diabetes mellitus) or insulin resistance (type 2 diabetes mellitus) leads to dysregulation of the metabolic pathways.
- 7. Understand the etiology and pathophysiology of carbohydrate intolerances, Celiac disease, food hypersensitivies, type 1 and type 2 diabetes, cardiovascular disease, and some cancers.
- 8. List the risk factors and identify the symptoms of carbohydrate intolerances, Celiac disease, food hypersensitivies, type 1 and type 2 diabetes, cardiovascular disease, and some cancers.
- 9. Apply the nutritional management guidelines (and explain their scientific basis) for carbohydrate intolerances, Celiac disease, food hypersensitivies, type 1 and type 2 diabetes mellitus, cardiovascular diseases, and some cancers, to specific case examples for the prevention or management of the specified disease state.
- 10. Assess whether a dietary food recall meets the nutritional management guidelines for carbohydrate intolerances, Celiac disease, food hypersensitivies, type 1 and type 2 diabetes mellitus, cardiovascular diseases, and some cancers, and to provide alternative food choices, including potential use of dietary supplements, to have the revised dietary pattern meet the guidelines.
- 11. Understand clinical terminology and interpret laboratory (biochemical) values and other nutritional assessment indicators relevant to carbohydrate intolerances, Celiac disease, food hypersensitivies, type 1 and type 2 diabetes, cardiovascular disease, some cancers, and body weight management. Use people first and inclusive language.
- 12. Describe the mode of action, and common side effects and contraindications, for medications used in the management of some gastrointestinal disorders, type 1 and type 2 diabetes, cardiovascular disease, and body weight management.
- 13. Evaluate whether there is sufficient scientific evidence (or not) to support the use of nutrients and nutraceuticals as pharmacological agents, or the use of complementary and alternative nutrition therapies, for the management of chronic diseases such as diabetes and cardiovascular disease.
- 14. Describe key components of the position statements and evidence-based practice guidelines for management of diabetes, cardiovascular disease and cancer.

Textbook, Readings, and Course Materials

• Textbook: Janice L Raymond and Kelly Morrow, *Krause and Mahan's Food and the Nutrition Care Process (15th edition)*. 2021. Elsevier, St. Louis, Missouri. Available at the University of Manitoba Bookstore (\$251 new; \$188 used). This is also the text for HNSC 4320. *If you already own a copy of the 14th edition*, you can continue to use it, however, the chapter numbers, page numbers, and some of the content will be different from the 15th edition.

- **Supplementary readings**, available on internet sites (e.g. websites of national organizations, and position paper posted on these websites), will be provided in the course notes.
- Materials that will be useful references for this course:
 - Previous Coursework and Textbooks from Nutrition (HNSC 1210, 2130, 2140) and Foods (HNSC 1200, 2150, 2160) courses, Biochemistry, and Human Anatomy and Physiology. In particular, the textbook from HNSC 2140 [Advanced Nutrition and Human Metabolism (8th edition, 2021; 7th edition, 2016) by SS Gropper, JL Smith, TP Carr] will be helpful for this course.
- The following are some internet sites relevant to the chronic disesases discussed in this course:

General Health <u>www.hc-sc.gc.ca</u>

Dietetics (DC/AND) <u>www.dietitians.ca</u> <u>www.eatright.org</u>
Diabetes (CDA/ADA) <u>www.diabetes.ca</u> <u>www.diabetes.org</u>

Heart & Stroke www.heartandstroke.ca

Celiac Disease www.celiac.ca
Cancer www.cancer.ca

Food Allergy Canada <u>www.foodallergycanada.ca</u>

Medical procedures and terminology, medical dictionaries, drug directories:

www.merck.com/mmhe/index.html

www.medicinenet.com and select MedTerms Dictionary

Using Copyrighted Material

Please respect copyright. We will use copyrighted content in this course. I have ensured that the content I use is appropriately acknowledged and is copied in accordance with copyright laws and university guidelines. Copyrighted works, including those created by me (course materials, recordings of lectures/classes), are made available for private study and research and must not be distributed in any format without permission. Note that copyrighted works cannot be uploaded to a learning management system (such as UM Learn), or any website, unless an exception to the *Copyright Act* applies or written permission has been confirmed. For more information, see the University's Copyright Office website at http://umanitoba.ca/copyright/ or contact um copyright@umanitoba.ca/copyright/ or contact umanitoba.ca/copyright/ or contact http://umanitoba.ca/copyright/ or contact http://umanitoba.ca/copyright/ or contact <a href="http://umanitoba

Course Technology

Course materials will be available on UM Learn. The Powerpoint slides used in class will be available on UM Learn before class (usually posted as sections of the course). Students are responsible for having the Powerpoint material during class time as either as a copy they have printed, or by viewing on their laptop or other electronic device.

Students are responsible for taking additional notes for material covered in class as the Powerpoint slides and other items are discussed in class. The tests will cover all material covered in class (i.e. questions on the tests are not limited to the information on the Powerpoint slides). Guest speaker presentations, including additional material and questions discussed in class, are included on tests. Get to know others in this class so that you can discuss class material and share additional notes and information if you or someone else is away.

The assignments will be submitted electronically via UM Learn.

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical and legal manner. *The student can use all technology in the classroom/virtual setting only for educational purposes* approved by instructor and/or the University of Manitoba Student Accessibility Services.

Expectations: I Expect You To

- I expect that your interactions with the instructor and with other students in the class will be respectful [See Respectful Work and Learning Environment Policy].
- I expect that you come to classes prepared to learn. For example, having a copy of the PowerPoint slides (either electronically or printed) and taking additional notes for material that is covered and discussed in class; reviewing course material after class as part of your ongoing studying throughout the term; preparing for the next class by completing the suggested readings and reviewing material from previous courses. I expect you to attend classes as part of your learning process, with the caveat that you not attend if you are ill or have Covid-19 or have Covid-19 symptoms.
- I expect you to raise questions about what you don't understand, to respond to the instructor's
 questions in class and to participate in class discussions to increase your level of understanding. I
 want you to appreciate and learn how to approach contradictory information (including outcomes
 of research studies) and contrasting points of view. I expect you to bring your curiosity, and to share
 examples and experiences which are relevant to the course material.
- I expect that your use of technology (ie. laptops, mobile devices, etc) will not be disruptive to others or to their learning environment.
- I expect you to follow UM Covid-19 protocols as posted on the UM website.

In addition, I expect you to follow these policies around Class Communication, Academic Integrity, and Recording Class Lectures:

Class Communication:

You are required to obtain and use your University of Manitoba email account for all communication between yourself and the university. All communication must comply with the Electronic Communication with Student Policy:

http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html.

Academic Integrity:

Each student in this course is expected to abide by the University of Manitoba <u>Academic Integrity principles</u>. Always remember to reference the work of others that you have used in written assignments. You are required to complete your assignments independently unless otherwise specified. You must do your own work during exams. Inappropriate collaborative behavior and violation of other Academic

Integrity principles, will lead to the serious <u>disciplinary action</u>. Visit the <u>Academic Calendar</u>, <u>Student Advocacy</u>, and <u>Academic Integrity</u> web pages for more information and support.

Recording Class Lectures:

Dr. Carla Taylor holds copyright over the course materials, presentations and lectures for this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission of Dr. Carla Taylor. Course materials (paper and digital and electronic) are for the participant's private study and research.

Student Accessibility Services:

The University of Manitoba is committed to providing an accessible academic community. <u>Students Accessibility Services (SAS)</u> offers academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services 520 University Centre Phone: (204) 474-7423

Email: Student accessibility@umanitoba.ca

The policies and services students are expected to follow/utilize are described in Section 2.5 ROASS.

Expectations: You Can Expect Me To

- To be respectful and to encourage you in the learning environment.
- To post the PowerPoint slides on UM Learn in advance of each class (and usually posted as a section of the course).
- To expand on the PowerPoint slides in class by providing additional material, using examples that
 are applicable to real life situations, and asking questions. My style is to lead students through a
 scenario by prompting with a series of questions. I expect students to respond but I do not expect
 perfection. My goal is for you to understand (not just recite or memorize) concepts and processes,
 and to be able to apply your knowledge to problem-solving questions and practical situations.
- At the beginning of each class, to recap important points from the previous class and to address any questions.
- To discuss some sample test questions in class and to post sample questions on UM Learn prior to the tests. To provide results from the tests, and assignment within the timeframes indicated in the course syllabus.
- To be available immediately before and after class for questions and clarifications. To be available for booking appointments. To provide drop-in office hours before the tests (usually the afternoon before the test).
- To follow UM Covid-19 protocols as posted on the UM website.

CLASS SCHEDULE AND COURSE EVALUATION

This schedule is subject to change at the discretion of the instructor and/or based on the learning needs of the students but such changes are subject to <u>Section 2.8 of ROASS</u>.

For each of the macronutrients, a review of

- •types, dietary and endogenous sources
- •metabolic pathways and inter-organ metabolism
- •hormones and regulatory control of metabolism
- •functions (in addition to energy metabolism)

and a focus on

- •role in the etiology and prevention of chronic disease
- •relevant clinical terminology and laboratory values/nutritional assessment
- •dietary recommendations and requirements for prevention and management of disease states; position statements and evidence-based practice guidelines
- •issues and controversies

NOTE: Chapters and page numbers for Krause and Mahan's Food and the Nutrition Care Process (15th edition) and Krause's Food and the Nutrition Care Process (14th edition) are provided.

| Date | Class Content | Required Readings or any Pre-class Preparation | Evaluation |
|-----------------|---|--|------------|
| Sept. 8 | Introduction | | |
| Sept. 13, 15 | Digestion, Absorption and Transport & Excretion of Macronutrients | Chapter 1 (15 th and 14 th) Intake: Gastrointestinal Digestion, Absorption, Transport & Excretion of Nutrients | |
| | Food & Nutrient Delivery | Chapter 12 (15 th) Chapter 13 (14 th) Food and Nutrient Delivery: Nutrition Support (Enteral and Parenteral Nutrition access and formula content pages 209-214 and 216-219 for 15 th edition and pages 210-215 and 217- 221 for 14 th edition) | |
| | Carbohydrate Intolerance | ZZZ 10. Z . Caldon, | |
| | | Chapter 27, pages 559-561 for 15 th and Chapter 28, pages 539-541 for 14 th for Intestinal Brush Border Enzyme Deficiencies | |
| Sept. 20, | Celiac Disease | www.celiac.ca | |
| 22 | | Chapter 27, pages 553-559 for 15 th and Chapter 28, pages 532-539 for 14 th for Celiac Disease | |
| | Food Hypersensitivities | www.foodallergy.org | |
| | | Chapter 25 for 15 th and Chapter 26 for 14 th , Medical Nutrition Therapy for | |

| | Colon Cancer | Adverse Reactions to Food: Allergies and Intolerances www.cancer.ca (see colorectal) Chapter 27, page 568-569 for 15 th and Chapter 28, page 549 for 14th for Intestinal Polyps and Colorectal Cancer; Chapter 35, pages 758-762 for 15 th and Chapter 36, pages 726-729 for 14 th for pathophysiology, and nutrition and carcinogenesis Appendix 27 for 15 th and Appendix 35 for 14 th for Nutritional Facts on a High-Fibre Diet | |
|---------------------------------------|--|---|--|
| Sept. 27, 29 | Overview of Metabolism and Metabolic Pathways; Biochemical Utilization of Energy from the Macronutrients; Regulation of Metabolism Fed, Post-absorptive, and Fasting States Energy Balance, Undernutrition, Overnutrition Body Composition Phenotypes | Chapter 2 (15 th and 14 th) Intake: Energy Chapter 7 (15 th) and Chapter 3 (14 th) Inflammation and the Pathophysiology of Chronic Disease, pages 110-113 for 15 th and pages 33-34 for 14 th for Body Composition, Energy Dysregulation and the Clinical Insight on Sarcopenic Obesity/Body Composition Phenotypes, and Inflammaging | |
| Oct. 4 Test | | | Term Test 1 (marks will be available within 2 weeks) |
| Oct. 6, 11, 13, 18, 20 | Impaired Glucose Tolerance & Diabetes (Type 1, Type 2, Gestational) Pathophysiology Screening and diagnostic criteria Management with diet, exercise, hypoglycemic agents, insulin Monitoring glycemic control Management of diabetic complications (acute and long term) | Chapter 5 for 15 th and Chapter 7 for 14 th for Clinical: Biochemical, Physical and Functional Assessment, page 69-70 for 15 th and page 109 for 14 th for Hemoglobin A1c and Diabetes Chapter 8 in 14 th Clinical: Food-Drug Interactions, Figure 8-1 The Four Basic Pharmacokinetic Processes; Figure 8-3 Factors that Determine the Intensity of Drug Responses; Figure 8-5 Movement | |

| | Position StatementsGuest speaker presentation (date is TBA)Reactive Hypoglycemia | of Drugs after GI Absorption [relevant information will be brought to class as this is not in the 15 th edition] Chapter 29 for 15 th and Chapter 30 for 14 th for Medical Nutrition Therapy for Diabetes Mellitus and Hypoglycemia of Nondiabetic Origin | |
|---|--|---|---|
| Oct. 20 (due date) | | | Diabetes Assignment – Part A, Due at 10:00 pm via UM Learn (marks will be available within 2 weeks) |
| Oct. 25, 27, Nov. 3, 15, 17 | Cardiovascular Diseases | Chapter 32 for 15 th and Chapter 33 for 14 th for Medical Nutrition Therapy for Cardiovascular Disease, pages 670-693 for 15 th and pages 646-668 for 14th Chapter 7 for 15 th and Chapter 3 for 14 th for Inflammation and the Pathophysiology of Chronic Disease, Box 7.3 (15 th) and Box 3.4 (14 th) Cardiometabolic Specific Inflammatory Markers; pages 113-118 (15 th) and pages (14 th) for lipid modulators of inflammation Chapter 5 for 15 th and Chapter 7 for 14 th for Clinical: Biochemical, Physical and Functional Assessment, pages 68-69 and Box 5.1 for 15 th and page 109 and Box 7.1 for 14 th for Lipid and Lipoprotein Atherosclerotic Cardiovascular Risk Factors Chapter 6 for 15 th and Chapter 5 for 14 th for Nutritional Genomics (general concepts and examples that relate to cardiovascular disease) | |

| | | Chapter 11 for 15 th for Food and Nutrient Delivery: Bioactive Substance and Integrative Care, or Chapter 12 for 14 th for Food and Nutrient Delivery: Complementary and Integrative Medicine and Dietary | |
|-----------------------------|---|--|---|
| | | Supplementation (general concepts and examples that relate to cardiovascular disease prevention and management) | |
| | | Appendix 17 (15 th) and Appendix 26 (14 th) DASH Diet Appendix 26 (15 th) and Appendix 34 (14 th) Nutritional Facts on Essential (Omega) Fatty Acids | |
| Nov. 2 Test | | | Term Test 2 (marks will be available within 2 weeks & before the VW date on Nov 22) |
| Nov. 8, 10 | No Classes – Fall Mid-term Break and Remembrance Day on Nov 11 | | |
| Nov. 22 | Cancer and Macronutrient Consumption (e.g. dietary lipids) Risk factors Primary prevention Position statements | Chapter 35, pages 758-762 for 15 th and Chapter 36, pages 726-729 for 14 th for pathophysiology, and nutrition and carcinogenesis | |
| Nov. 24 (due date) | | | Diabetes Assignment – Part B, Due at 10:00 pm via UM Learn (marks will be available before the last test) |
| Nov. 24, 29 Dec. 1 | Protein and Amino Acid Metabolism Protein-Energy Malnutrition High Protein Diets | Pages 415-416 for 15 th , Page 374 for 14 th , Underweight and Malnutrition | |

| · | ■ Gout | Pages 838-840 for 15 th and Pages 806- | |
|--------|------------------------------------|--|---------------|
| | | 807 for 14 th for Gout | |
| Dec. 6 | Disorders of Amino Acid | Chapter 41 for 15 th and Chapter 43 for | |
| | Metabolism (e.g. Phenylketonuria), | 14 th for Medical Nutrition Therapy for | |
| | Carbohydrate Metabolism, and | Genetic Metabolic Disorders, pages | |
| | Fatty Acid Oxidation | 938-946 for 15 th and pages 890-901 for | |
| | | 14 th for Newborn Screening and PKU; | |
| | | pages 949-950 for 15 th and pages 904- | |
| | | 907 for 14 th for carbohydrate | |
| | | metabolism and fatty acid oxidation | |
| | | examples, and Box 42.2 for 15 th and | |
| | | Box 43.2 for 14 th for Intervention | |
| | | Objectives for the Nutritionist Involved | |
| | | in the Treatment of Genetic Metabolic | |
| | | Disorders | |
| Dec. 8 | Review class | | |
| Dec. | Final exam | | Final Grades |
| Exam | | | will be |
| Period | | | available |
| | | | before the |
| | | | Holiday Break |

Course Evaluation

Student's learning will be assessed by a variety of methods:

Term Tests and Types of Questions:

- This course has two tests and a final exam i) to provide students with exposure and experience with the types of questions and expectations regarding a complete answer, ii) to ensure students are learning the course material throughout the course and because the various sections of the course are building on previous sections, and iii) to have the assessment for this course spread across the term.
- The tests and final exam have three types of questions to test a combination of knowledge and application of knowledge and problem-solving skills:
 - 1) multiple choice questions (assess knowledge and recognition of the correct answer),
 - 2) fill in the blank questions (provide the answer) and short answer questions (ability to express an answer in your own words, to explain the underlying scientific basis, and to be succinct and identify the most important points), and
 - 3) long answer questions (problem-solving questions that require application of knowledge and concepts covered in class, and ability to express answers in your own words). Examples of problem-solving questions will be discussed in class. Answers will be marked for covering essential points, accuracy of information, etc. (i.e. listing 5 points does not necessarily equal 5 marks; a 'correct' answer that contains some inaccurate information will not receive full marks).

- Although there is a cumulative aspect to this course, each test will have a focus with respect to the material covered and the learning objectives being assessed. The final exam will have some questions that integrate what has been learned across the course.
- Diabetes Assignment: For Part A, students find a research article related to diabetes management and compare the results of the study to the relevant position statement. Some additional questions will be answered. Part B is a case study for managing type 1 diabetes and provides an opportunity for students to apply their knowledge and skills to a practical situation A brief description of the Diabetes Assignment is provided in a following section of the course syllabus. Detailed instructions for the Assignment will be distributed in October when the relevant material on diabetes management is being covered.

| Date and Time | Assessment Tool | Value of Final Grade |
|--|------------------------------|-------------------------|
| Tuesday, October 4, 10:00-11:15 am (during class time) | Term Test #1 | 20% |
| Thursday, October 20, 10:00 pm (submitted via UM Learn) | Diabetes Assignment – Part A | 5% |
| Tuesday, November 1, 10:00-11:15 am (during class time) | Term Test #2 | 20% |
| Thursday, November 24, 10:00 pm (submitted via UM Learn) | Diabetes Assignment – Part B | 25% |
| Final Examination Period (scheduled by UM within the Dec 13-23 examination period) | Final Exam | 30% |

- Note that UM has a new policy regarding absences a self-declaration form for situations
 (extenuating circumstances) that require an absence for up to 72 hours. Extenuating circumstances
 include illnesses and medical conditions, compassionate/personal needs, religious observances,
 bereavement, and participation in approved academic or athletic events. The self-declaration form
 cannot be used for planned absences like vacations or longer-term absences or ongoing
 circumstances (e.g. Authorized Withdrawals, Leaves of Absences, or disability-related
 accommodations) which will still require additional documentation.
- If you are unable to write a test or submit an assignment due to extenuating circumstances, please contact the instructor (send an email or leave a message on voice mail). In these instances, the instructor will make arrangements for another date for writing the test or submitting the assignment. Note that deferrals for the final exam are handled by the Faculty of Agricultural and Food Sciences (and not the instructor).

Grading

| Letter Grade | Percentage out of 100 | Grade Point Range | Final Grade Point |
|--------------|-----------------------|-------------------|-------------------|
| A+ | 88.0-100 | 4.25-4.5 | 4.5 |
| Α | 80.0-87.9 | 3.75-4.24 | 4.0 |
| B+ | 75.0-79.9 | 3.25-3.74 | 3.5 |
| В | 70.0-74.9 | 2.75-3.24 | 3.0 |
| C+ | 65.0-69.9 | 2.25-2.74 | 2.5 |
| С | 60.0-64.9 | 2.0-2.24 | 2.0 |
| D | 50.0-59.9 | Less than 2.0 | 1.0 |
| F | Less than 50 | | 0 |

Voluntary Withdrawal

The last day to drop the class and receive 100% refund is September 20 and the last day to withdraw with no refund is November 22. Students who do not drop the course by the deadline will be assigned a final grade. Note that the withdrawal courses will be recorded on your official transcript. Refer to the Registrar's Office web page for more information. If you are concerned with your progress in this course and want to discuss strategies for improvement prior the withdrawal date, please make an appointment to discuss with me.

ASSIGNMENT DESCRIPTIONS

Instructions for the Assignment will be distributed in October when the relevant material on diabetes management is being covered.

The Assignment has two parts:

Part A: Current Research Example on Nutritional Management of Diabetes (Type 1 or Type 2)

Part B: Nutritional Management of Type 1 Diabetes Mellitus

The objectives of the Assignment are

Part A: To find a published research paper on nutritional management of diabetes (Type 1 or Type 2) and/or diabetes-related complications, and to describe the main finding(s) relative to the practice guidelines.

- Part B: 1. To gain experience in nutritional management of Type I diabetes mellitus,
 - 2. To gain experience with carbohydrate counting,
 - 3. To interact with another health professional involved in diabetes management and to appreciate the financial costs associated with diabetes care.

Referencing Style

For the Assignments, follow the referencing style and instructions for The American Journal of Clinical Nutrition:

https://academic.oup.com/ajcn/pages/General_Instructions#Format%20and%20Style%20Requirements

Assignment Feedback

The Assignments are due on October 20 (Part A) and November 24 (Part B) at 10:00 pm. The goal is to have the assignments marked within two weeks (before the last class for Part B). Students will receive feedback and their mark using a marking rubric.

Assignment Extension and Late Submission Policy

- If you submit a late assignment, 10% of the total marks will be subtracted for each day that the assignment is late (i.e. 10% for 1 day late, 20% for 2 days late, 30% for 3 days late, etc.).
- If you are unable to complete an assignment due to extenuating circumstances (see examples above), please contact the instructor (send an email or leave a message on voice mail). In these circumstances, the instructor will make arrangements for an extension for completing the assignment.

UNIVERSITY SUPPORT OFFICES & POLICIES

Schedule "A"

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UM Policies

As a student at the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The University of Manitoba (UM) website's <u>Governing Documents</u> (https://umanitoba.ca/governance/governing-documents) is one important source of information, in particular the Academic and Students sections. The Student Advocacy office can also help you understand policies and procedures; find their information in the UM Learner Supports section below.

Academic Calendar

The <u>Academic Calendar</u> (https://umanitoba.ca/registrar/academic-calendar) is the University's official publication containing course descriptions, program and graduation requirements, as well as UM and faculty/school-specific rules, regulations and policies. In particular, familiarize yourself with the sections *University Policies and Procedures* and *General Academic Regulations*.

Academic Integrity

In addition to reviewing your instructor's academic integrity policy listed in their syllabus, you are expected to view the *General Academic Regulation* section within the <u>Academic Calendar</u> (https://umanitoba.ca/registrar/academic-calendar) and specifically read the regulation pertaining to Academic Integrity. Ask your instructor for additional information about demonstrating academic integrity in your academic work, and consult the following UM resources for more information and support:

- <u>Academic Integrity</u> (https://umanitoba.ca/student-supports/academic-supports/academic-integrity)
 - Student Resources (https://umanitoba.ca/student-supports/academicsupports/academic-integrity#resources-to-conduct-academic-work-with-integrity)
 - Academic Misconduct and How to Avoid It (https://umanitoba.ca/student-supports/academic-supports/academic-integrity#academic-misconduct-and-how-to-avoid-it)
- <u>Student Advocacy Office</u> (https://umanitoba.ca/student-supports/academicsupports/student-advocacy)

Copyright

All students are required to respect copyright as per Canada's *Copyright Act*. Staff and students play a key role in the University's copyright compliance as we balance user rights for educational purposes with the rights of content creators from around the world. The Copyright Office (https://umanitoba.ca/copyright/) provides copyright resources and support for all members of the University of Manitoba community.

Grade Appeals

If you have questions about your grades, talk to your instructor. There is a process for term work and final grade appeals. Note that you have the right to access your final examination scripts. See the Registrar's Office (https://umanitoba.ca/registrar/grades/appeal-grade) for more information including appeal deadline dates and the appeal form.

Intellectual Property

For information about rights and responsibilities regarding intellectual property view the Intellectual Property Policy (https://umanitoba.ca/governance/governing-documents-university-community#intellectual-property)

Program-Specific Regulations

For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective <u>faculty/college/school</u> website (https://umanitoba.ca/academics).

Respectful Work and Learning Environment

The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected to conduct yourself in an appropriate and respectful manner. Policies governing UM community behaviour include:

- Respectful Work and Learning Environment (https://umanitoba.ca/about-um/respectful-work-and-learning-environment-policy)
- Student Discipline (https://umanitoba.ca/governance/governing-documents-students#student-

discipline)

• <u>Violent or Threatening Behaviour</u> (https://umanitoba.ca/governance/governing-documents-students#violent-or-threatening-behaviour)

The UM website, <u>Engaging in Respectful Conduct</u> (https://umanitoba.ca/student-supports/respectful-conduct), includes more details about expectations for behaviours related to university activities.

Sexual Violence Policies

The UM has several policies and procedures that deal with the rights and responsibilities of the University community with regards to all forms of sexual violence. For a comprehensive list of policies and associated resources, visit the <u>Sexual Violence Resource Centre's information page</u> (https://umanitoba.ca/student-supports/sexual-violence-support-and-education/sexual-violence-get-informed). Please note that there are many supports available in addition to these policy documents (see UM Learner Supports).

Voluntary Withdrawal

Voluntary withdrawal (VW) is a way for students to leave a class without academic penalty once the Registration Revision Period has ended. If you opt to voluntarily withdraw from a course, you will not be eligible for a refund and, if applicable, will still be required to pay any outstanding tuition fees for the course. On your transcript, the course you have withdrawn from will be listed; however, "VW" will appear in lieu of a grade. If you do not drop a course before the VW deadline, you will receive a final grade in the course on your transcript.

Please note that there are separate deadlines for dropping a course early in a term during the Registration Revision Period. Dropping a course means you are removing that course from your schedule, will not be charged tuition fees for that course, and the course will not appear on your transcript.

The Registrar's Office website, Withdraw from a Course

(https://umanitoba.ca/registrar/withdraw-course), includes more information on the different ways in which you can withdraw from a course and important dates and deadlines to do so.

UM Learner Supports

Below you will find a select list of important supports for learners at the UM, both academic supports and otherwise. For a complete listing of all learner supports at the University of Manitoba, visit the Student Supports website (https://umanitoba.ca/student-supports).

Academic Advising

Contact an <u>Academic Advisor</u> (https://umanitoba.ca/student-supports/academic-supports/academic-advising) for support with degree planning and questions about your academic program and regulations.

Academic Learning Centre (ALC)

The <u>Academic Learning Centre</u> (https://umanitoba.ca/student-supports/academic-supports/academic-learning) offers one-to-one tutoring, groups study sessions and workshops, as well as video and tip-sheet resources to help you throughout your academic program. All Academic Learning Centre programing, supports, and services are free for UM students.

Make an appointment for free one-to-one tutoring (https://umanitoba.ca/student-supports/academic-supports/academic-learning/tutoring-group-study#individual-tutoring).

Content tutors (over 90 UM courses) can help you understand concepts and learn problem-solving strategies. Study skills tutors can help you improve your skills such as time management and goal setting, reading and note-taking, as well as learning and test-taking strategies. Writing tutors can give you feedback on your academic writing, whether you are just getting started on a written assignment or already have a draft. English as an Additional Language specialist, Antoanela Denchuk, is available for one-to-one tutoring to help you improve your English-language academic writing skills. Use the drop-down menu, read the tutor biographies, and make an appointment for tutoring on the Academic Learning Centre schedule (https://manitoba.mywconline.com/).

Attend <u>Supplemental Instruction (SI)</u> (https://umanitoba.ca/student-supports/academic-supports/academic-learning/tutoring-group-study) sessions in historically difficult courses (including Chemistry, Engineering, and Computer Science). These free weekly review sessions are facilitated by a peer mentor who has previously taken the course and provide an opportunity to discuss course content, ask questions, compare notes, solve practice problems, and develop study strategies. See online for a list of SI courses and meeting times.

Register for an <u>Academic Success Workshop</u> (https://umanitoba.ca/student-supports/academic-supports/academic-learning/academic-success-workshops), where you can learn strategies to improve your writing and studying. More information on topics, dates, and registration, are found online.

Register for Faculty of Graduate Studies *Grad Steps* Workshops

(https://umanitoba.ca/graduate-studies/student-experience/graduate-student-workshops). These workshops are specifically designed for students working towards **Master's degrees or PhDs.** More information on topics, dates, and registration can be found online.

Access the Academic Learning Centre's collection of <u>videos and tip sheets</u> (https://umanitoba.ca/student-supports/academic-supports/academic-learning#tip-sheets-forwriting-and-study-skills) to help you with many of the academic tasks you'll encounter in university.

Contact the Academic Learning Centre by calling 204-480-1481 or emailing academic_learning@umanitoba.ca. Bannatyne students can contact the Bannatyne Student Services office at 204-272-3190.

Basic Needs

It can be difficult to learn and succeed in courses when you are struggling to meet your or your family's basic needs. Several UM and community resources are listed below if you would benefit from support with regards to housing, food, finances, and/or childcare:

- Housing
 - UM Housing (https://umanitoba.ca/housing)
 - Winnipeg Rental Network (https://www.winnipegrentnet.ca/)
 - Manitoba Residential Tenancies Branch (https://www.gov.mb.ca/cca/rtb/)
 - HOPE End Homelessness Winnipeg Services & Supports (https://umanitoba.ca/housing)
- Food
 - o <u>U of M Food Bank</u> (https://umanitoba.ca/financial-aid-and-awards/u-m-food-bank)
 - Food Matters Manitoba (https://foodmattersmanitoba.ca/find-emergency-food-in-winnipeg/)
- Finances
 - UM Financial Aid and Awards (https://umanitoba.ca/financial-aid-and-awards)
 - Manitoba Student Aid (https://www.edu.gov.mb.ca/msa/)
- Child Care
 - o UM Child Care (https://umanitoba.ca/about-um/child-care)
 - o Manitoba Child Care Subsidy (https://bit.ly/3yG3ijy)
 - o Manitoba Child Care Association (https://mccahouse.org/looking-for-child-care/)

English Language Centre

The <u>English Language Centre (ELC)</u> (https://umanitoba.ca/english-language-centre) provides courses, tests, accommodations and individual support to students whose first language is not English in order to support academic success and participation in the University of Manitoba community.

Health and Wellness

Physical, mental, emotional, and spiritual health and wellness play a critical role in student success. See all of UM's resource on their <u>Health and Wellness</u> (https://umanitoba.ca/student-supports/student-health-and-wellness) website, and make note of several specific UM and community supports listed below.

Winnipeg Urgent Physical and Mental Health Care

If you are an adult experiencing a mental health or psychosocial crisis, contact the Klinic Community Health (https://klinic.mb.ca/crisis-support/) 24/7 crisis line at 204-786-8686, visit the Crisis Response Centre (https://sharedhealthmb.ca/services/mental-health/crisis-response-centre/) located at 817 Bannatyne Avenue, or contact the Mobile Crisis Service at 204-940-1781.

To speak with a nurse for guidance on what health-care path to take for the issue you are facing or for general information about health resources available in Manitoba, contact Health Links (https://misericordia.mb.ca/programs/phcc/health-links-info-sante/) at 1-888-315-9257 (toll free).

If you need urgent medical care, visit the Winnipeg Regional Health Authority's Emergency
Department & Urgent Care Wait Times webpage (https://wrha.mb.ca/wait-times/) for a list of locations and current wait times.

Student Counselling Centre (SCC)

The <u>Student Counselling Centre</u> (https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc) provides free counselling and mental health support to UM, English Language Centre, and International College of Manitoba (ICM) students. We are open year-round, Monday through Friday from 8:30 am to 4:30 pm. Our commitment is to offer a support service to every student who contacts us.

Visit the SCC's <u>For Urgent Help</u> (https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc#for-urgent-help) webpage or the urgent care resources listed above if you require immediate support.

Visit the SCC's <u>Our Services</u> (https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc#for-urgent-help) webpage for more information on accessing a variety of services including individual counselling, counselling workshops and groups, support resources, and learning disability assessment services.

The SCC is located is located at 474 UMSU University Centre (Fort Garry Campus).

Health and Wellness Office

Students often juggle multiple demands, and we recognize that it can be difficult to find balance. For any changes you want to make to your health and wellness, the Health and Wellness Office at the University of Manitoba would like to support you in your journey. We are here to help you take control of your own health and make your own decisions. We are a judgment-free space and we avoid labels whenever possible. For more information, please visit the Health and Wellness Office (https://umanitoba.ca/student-supports/health-wellness) website.

Spiritual Care and Multifaith Centre

Spiritual care services are available to all, whether you identify as spiritual, atheist, religious or agnostic. <u>Spiritual Services</u> (https://umanitoba.ca/student-supports/spiritual-services) also offer specific denominational support for certain religious groups and by Indigenous Elders-in-Residence.

Student Support Case Management (SSCM)

Contact the <u>Student Support Case Management team</u> (https://umanitoba.ca/student-supports/academic-supports/student-advocacy/case-management) if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team.

University Health Service (UHS)

The <u>University Health Service</u> (https://umanitoba.ca/student-supports/health-wellness/university-health-service) offers a full range of medical services to students, including psychiatric consultation, via two health clinics:

- Fort Garry Campus: (204) 474-8411, ACW-Lot temporary trailer (behind the Isbister building)
- Bannatyne Campus: (204) 474-8411, P309 Pathology Building

Student Services at Bannatyne Campus

Student Services at Bannatyne Campus (SSBC) offers a full range of mental health supports to students and residents in the Rady Faculty of Health Sciences, along with other academic and personal supports. Visit the SSBC website (https://umanitoba.ca/student-supports/student-services-bannatyne-campus) for a list of services available.

Indigenous Students

Staff, faculty and Elders are well-equipped to ensure your university experience is as beneficial, accessible, and successful as possible. Visit the Indigenous Student Experience (https://umanitoba.ca/indigenous/student-experience) website for more information on the supports and services available.

International Students

The transition to a new country and a new academic system can be both exciting and overwhelming. The International Centre (IC) is here to help you settle into life at University of Manitoba. Visit the International Students website (https://umanitoba.ca/current-students/international) for more information.

Sexual Violence Support and Education

Sexual violence affects people of all ages, sexual orientations, genders, gender identities, abilities and relationship statuses. At the U of M, we are committed to ensuring a respectful work and learning environment for all. We want to build a safe and inclusive campus community where survivors of sexual violence know they can receive the supports they need to succeed, both academically and personally.

The <u>Sexual Violence Resource Centre</u> (https://umanitoba.ca/sexual-violence), located at 537 UMSU University Centre (Fort Garry campus) provides support, resources, information and referral services for any student, faculty or staff member who has been affected by sexual violence.

Student Accessibility Services (SAS)

The University of Manitoba is committed to providing an accessible academic community. Student Accessibility Services (https://umanitoba.ca/student-supports/accessibility) offers academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g., mental health, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation. SAS is located at 520 University Centre (Fort Garry Campus).

Student Advocacy

<u>Student Advocacy</u> (https://umanitoba.ca/student-supports/academic-supports/student-advocacy) is a safe place for students. We help you navigate university processes and advocate for your rights as a student at UM. If anything in your personal or academic life is affecting your studies, contact our confidential intake assistant by phone (204-474-7423) or email (<u>stadv@umanitoba.ca</u>).

University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you inperson. A complete list of liaison librarians (http://bit.ly/WcEbA1) can be found by subject.

In addition, general library assistance is provided in person at 19 University Libraries, located on both the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the <u>UM Libraries and Departments</u> (https://libguides.lib.umanitoba.ca/c.php?g=298526) webpage. When working remotely, students can

also receive help online, via the Ask-a-Librarian chat found on the <u>University of Manitoba Libraries'</u> <u>homepage</u> (https://umanitoba.ca/libraries/)