

BRESCIA UNIVERSITY COLLEGE
Division of Food & Nutritional Sciences

Foods and Nutrition 4471B
Nutrition and Metabolic Processes

Dr D Battram – Rm 216 St James Building
Office Hours: Monday 1-2 pm

COURSE SUMMARY
(Winter 2012)

DESCRIPTION: An integrative / in-depth study of nutrient metabolism at the advanced level. Utilization of the major nutrients emphasizing regulatory mechanisms at the organ and cellular levels under various physiological conditions.

OBJECTIVES: By the end of the course, you will

a. gain a clearer understanding of the role / function and metabolism of the macro-nutrients and select micro-nutrients under normal physiological conditions.

b. then integrate this knowledge to analyse the biochemical nature of normal and abnormal (disease) metabolic processes.

c. be better able to appreciate various ranges of normalcy (in otherwise healthy individuals) and cut-points for numerous disease states and why treatment targets may vary on an individual basis.

d. gain stronger critical thinking skills through seminar discussions on current scientific literature

e. develop stronger leadership skills by facilitating seminar discussions and conducting a class lecture

PREREQUISITES: FN 1030E (Former FN 235a/b), FN 3344aA/B and Biochem 2280A or 2288A or by permission of the Instructor / Division.

APPROACH: Lectures (3 hrs. per week) based on Textbooks and Assigned Readings and Seminar discussions on current scientific literature.

TEXTBOOK: Harper's Illustrated Biochemistry (28th ed). RK Murray, VW Rodwell, D Bender KM, Botham, PA Weil & PJ Kennelly. McGraw Hill. Toronto ON, 2009.

Advanced Nutrition and Human Metabolism (5th ed). SS Gropper, JL Smith & JL Groff. Wadsworth Cengage Learning. USA. 2009.

EVALUATION:

| Assignment | Marks |
|---|--------------|
| Completion of vitamin/mineral DC course | 10% |
| Group project | 40% |
| Seminar participation (2 x 10%) | 20% |
| Final exam | 30% |
| Total | 100% |

LECTURE SCHEDULE

| Week | Date | Content |
|-------------|-------------|--|
| 1 | Jan 9, 2012 | Review of course outline Review of key biochemical concepts |
| 2 | Jan 16 | Carbohydrate metabolism |
| 3 | Jan 23 | Carbohydrate metabolism continued |
| 4 | Jan 30 | Fat metabolism |
| 5 | Feb 6 | Fat metabolism continued |
| 6 | Feb 13 | Protein metabolism |
| 7 | Feb 20 | READING WEEK – no classes |
| 8 | Feb 27 | <i>Completion of DC vitamin/mineral course (10%)</i> |
| 9 | Mar 5 | Group project meetings |
| 10 | Mar 12 | Student presentations (40%) |
| 11 | Mar 19 | Student presentations (40%) |
| 12 | Mar 26 | Appetite regulation |
| 13 | Apr 2 | Seminar 1: The impact of physical activity on CHO/fat metabolism (10%) |
| 14 | Apr 9 | Seminar 2: The role of obesity in diabetes/CVD development (10%) |
| | TBA | Final exam (30%) (April 14 – 30, 2012) |

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FOODS AND NUTRITION 4471B
NUTRITION AND METABOLIC PROCESSES
2012

Dr Danielle Battram, PhD

**GROUP PROJECT
PRESENTATION ON THE METABOLIC PROCESSES OF A KEY VITAMIN OR MINERAL**

This project is designed to provide students with an opportunity to present a 40 min lecture on the metabolic processes on a key vitamin or mineral. Students will work in groups of 5-6 students (determined by the instructor) and will be given **one** of the following topics: vitamin D, iron, vitamin B12, calcium, sodium OR niacin. Students will be required to design a powerpoint presentation and, if needed, additional educational handouts to their classmates. Powerpoint presentations and additional materials are due to the instructor **48 hours prior to their presentation**, so that she can post the presentation and materials on webCT for other students.

The presentations will be evaluated on the group's ability to thoroughly and concisely present the following on their topic:

- 1) Common sources of the nutrient in the food supply
- 2) Current intakes within the Canadian population
- 3) Current dietary recommendations
- 4) Digestion, absorption and intake issues
- 5) Fate of their nutrient once absorbed (storage, oxidation, turnover)
- 6) The roles and functions of their nutrient within the human body
- 7) The effects of deficiency and toxicity on metabolic processes

Students are encouraged to provide diagrams and tables when appropriate and to facilitate class discussion and participation during the presentation.

Presentations will occur on either March 5th or March 12th, 2012. The order of presentations will be randomly assigned by the instructor.

This project is worth 40% of your overall mark.

BRESCIA UNIVERSITY COLLEGE ACADEMIC POLICIES AND REGULATIONS

1. POLICY REGARDING MAKEUP EXAMS AND EXTENSIONS OF DEADLINES

When a student requests academic accommodation (e.g., extension of a deadline, a makeup exam) for work representing 10% or more of the student's overall grade in the course, it is the responsibility of the student to provide acceptable documentation to support a medical or compassionate claim. All such requests for academic accommodation **must** be made through an Academic Advisor and include supporting documentation. Academic accommodation on medical grounds will be granted only if the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete her academic responsibilities. Appropriate academic accommodation will be determined by the Dean's Office in consultation with the student's instructor(s). Please note that personal commitments (e.g., vacation flight bookings, work schedule) which conflict with a scheduled test, exam or course requirement are not grounds for academic accommodation.

If supporting documentation is from a family physician, Hospital Urgent Care Centre or Emergency Department, or a walk-in clinic a UWO Student Medical Certificate (SMC) is **required**. To download an SMC go to <https://studentservices.uwo.ca/secure/index.cfm> and follow the link under "Medical Documentation". Documentation should be obtained at the time of the initial visit. If it is not possible to have an SMC completed by the attending physician, the student must request documentation sufficient to demonstrate that her ability to meet academic responsibilities was seriously affected. Please note that under University Senate regulations documentation stating simply that the student "was seen for a medical reason" or "was ill" is **not** considered adequate to support a request for academic accommodation. If documentation is from Student Health Services, the student should sign a release of information form. All documentation is to be submitted to an Academic Advisor.

Whenever possible, requests for academic accommodation should be initiated in advance of due dates, examination dates, etc. Students must follow up with their professors and Academic Advisor in a timely manner.

The full statement of University policy regarding extensions of deadlines or makeup exams can be found at <http://www.westerncalendar.uwo.ca/2010/pg117.html>.

2. ACADEMIC CONCERNS

If you feel that you have a medical or personal problem that is interfering with your work, contact your instructor and Academic Advisor as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. Retroactive requests for academic accommodation on medical or compassionate grounds may not be considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult an Academic Advisor. If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines (refer to the Registrar's website, www.registrar.uwo.ca, for official dates). You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. *Note that dropping a course may affect OSAP eligibility and/or Entrance Scholarship eligibility.*

The Dean may refuse permission to write the final examination in a course if the student has failed to maintain satisfactory academic standing throughout the year and or for too frequent absence from the class or laboratory.

3. ABSENCES

Short Absences: If you miss a class due to a minor illness or other problems, check your course outline for information regarding attendance requirements and make sure you are not missing a test or assignment. Cover any readings and arrange to borrow notes from a classmate. Contact the course instructor if you have any questions.

Extended Absences: If you have an extended absence, you should contact the course instructor and an Academic Advisor. Your course instructor and Academic Advisor can discuss ways for you to catch up on missed work and arrange academic accommodations, if appropriate.

4. POLICY ON CHEATING & ACADEMIC MISCONDUCT

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offences. Students are urged to read the section on Scholastic Offences in the Academic Calendar. Note that such offences include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. Students are advised to consult the section on Academic Misconduct in the Western Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the McCann Student Services Centre, or the Registrar. A claim that "you didn't know it was wrong" is not accepted as an excuse.

The penalties for a student guilty of a scholastic offence (including plagiarism) include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

Plagiarism:

Students must write their essays and assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Computer-marked Tests/exams:

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating. Software currently in use to score computer-marked multiple-choice tests and exams performs a similarity review as part of standard exam analysis.

5. PROCEDURES FOR APPEALING ACADEMIC EVALUATIONS

All appeals of a grade must be directed first to the course instructor. If the student is not satisfied with the decision of the course instructor, a written appeal signed by the student must be sent to the Department Chair. If the response of the department is considered unsatisfactory to the student, she may then submit a signed, written appeal to the Office of the Dean. Only after receiving a final decision from the Dean may a student appeal to the Senate Review Board Academic. A Guide to Appeals is available from the Ombudsperson's Office, or you can consult an Academic Advisor. Students are advised to consult the section on Academic Rights and Responsibilities in the Western Academic Calendar.

6. PREREQUISITES AND ANTIREQUISITES

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Similarly, you will also be deleted from a class list if you have previously taken an antirequisite course unless this has the approval of the Dean. These decisions may not be appealed. You will receive no adjustment to your fees

in the event that you are dropped from a course because you have taken an antirequisite course.

7. SUPPORT SERVICES

The Brescia University College Registrar's website is at <http://www.brescia.uwo.ca/current/registrar/>, Academic Support and Advising is at <http://www.brescia.uwo.ca/current/advising/> and the McCann Student Services Centre is <http://www.brescia.uwo.ca/current/services/>. The University of Western Ontario Registrar's website is <http://www4.registrar.uwo.ca>.

Portions of this document were taken from the Academic Calendar, the Handbook of Academic and Scholarship Policy and the Academic Handbook of Senate Regulations. This document is a summary of relevant regulations and does not supersede the academic policies and regulations of the Senate of the University of Western Ontario.