

Advanced Nutrition Macronutrients: Readings (11:709:402)

Fall 2022

Teaching Assistant: Matthew Selby (Contact email: mls450@connect.rutgers.edu)

Section 01: Monday 12:10-1:30 in RAB 104 (Ruth Adams Building, 131 George St, New Brunswick NJ 08901)

Section 02: Monday 2:00-3:20 in Thompson 206 (96 Lipman Drive, New Brunswick NJ 08901)

*The first class will be on **Monday, Sep 12th, 2022***

Office hours: TBD. If you would like to arrange a meeting outside of regular class time or office hours, you can email Matt, but his availability varies, and alternative meeting times are at his discretion. The further in advance you can schedule a meeting, the better.

Contact: Contact Matt by email at mls450@connect.rutgers.edu. For prompt responses, include 11:709:402 at the end of the subject line.

All students must also be registered for the lecture portion of this course, Advanced Nutrition Macronutrients (11:709:400).

In order to protect the health and well-being of all members of the University community, masks must be worn by all persons on campus when in the presence of others (within six feet) and in buildings in non-private enclosed settings (e.g. common workspaces, workstations, meeting rooms, classrooms, etc.). Masks must be worn during in person any class meetings, examinations, office hours; any student not wearing a mask will be asked to leave.

Objective

The purpose of this course is to utilize a small classroom environment to discuss and review problems and study questions based on the material covered in Advanced Nutrition lectures each week. This course is intended for students who feel that their background and understanding of biochemistry limit their achievement in the main course. Lucky for you, your TA has a bachelor's degree in biochemistry, has taken nutritional biochemistry twice, and is highly motivated to teach other students. However, Matt cannot guarantee your success on his charisma and force of will alone; to maximize your benefits from this course, you are expected to come to each class meeting prepared to ask questions and participate in topic reviews.

Attendance & Participation

Attendance and participation are mandatory during class. If you have a true scheduling conflict, please email me to discuss the matter.

Course Material

Materials will be accessible on the Canvas sites (11:709:402:01&02 RDGS MACRONUTRIENTS)

Homework

Written Work: Homework will be posted on Canvas (in Assignments tab) by every Tuesday covering the material discussed on Tuesday and following Thursday lectures. They should be submitted in *Word* document in Assignments tab **by Sunday evening (11:00 PM)**. In preparation for class discussion, you should answer all questions, and bring a copy of your answers to class. Questions that are **bolded** will be graded as part of the homework assignment. Each homework will account for 5 points. Because homework is discussed in class, it must be completed prior to class for full points. Assignments turned in after class will be docked 2 points. Missing class and failing to turn in an assignment will get 0 points. Refer to the schedule below for due dates.

Artistic work: Turning words on a page into an *illustration* is one of the best ways to learn material, so part of your weekly assignment is to turn draw a diagram illustrating a concept from lecture. It can be any concept you want, simply show Matt your masterpiece every week in class, at office hours, or via email to earn 5 points. An example from Matt's notes is shown in **Figure 1** at the end of the document.

Extra credit: Extra credit opportunities for the 11:709:402 will be made available as Matt sees fit, or when inspiration for more learning opportunities strike him. Note that extra credit is *only* offered for 11:709:402, and not the lecture portion of the class.

Quizzes

There will be several pop quizzes covering the material that we review in class at the end of class. Therefore, it is best to be prepared to ask questions during class and take part in class discussions in order to do well on quizzes. Each quiz will account for 6 points. The 5 highest scored quizzes will be kept.

Plagiarism

Plagiarism of any kind will not be tolerated. This class is for **your benefit** and cheating on material just cheats yourself. All submitted homework assignments must be in your own words and include a proper citation of your source when appropriate. Incorrect use of someone else's intellectual property will result in a score of 0, and will be reported to the instructors and an Academic Integrity Facilitator.

Grading (% of total grade)

Homework 40%

Quizzes 20%

Participation 20%

Attendance 20 %

	Points Each	Total Points	Grading:
Participation + Attendance (14 classes)		60	A: 189-210 B+: 179-188 B: 168-178 C+: 160-167 C: 147-159 D: 126-158 F: 0-125
In-class pop quizzes (5)	6	30	
Homework (12)	10	120	
Total (Total grades will be rounded up)		210	

Tentative schedule (subject to change)

Date	Lecture(s) covered	Homework and due dates
Sep 12	Tissue specific metabolism/Carbohydrates Fiber & HMOs. The colonic microbiota	No homework this week
Sep 19	Digestion/Transport/Regulation/Glycolysis 1	Homework 1 due on Sep 18
Sep 26	Glycolysis 2/Pentose Shunt/PDHC/TCA cycle Glycogen	Homework 2 due on Sep 25
Oct 3	Gluconeogenesis / Review post-exam 1	
Oct 10	Dietary protein: quantity and quality B6/Non-protein nitrogen	Homework 3 due on Oct 9
Oct 17	Protein turnover/BCAA Alanine/Glutamate/Glutamine	Homework 4 due on Oct 16
Oct 24	Nitrogen excretion 1 Nitrogen excretion 2/Problem Based Questions	Homework 5 due on Oct 23
Oct 31	Lipids – Introduction to Lipids	Homework 6 due on Oct 30
Nov 7	Lipids - Digestion and Absorption – Part I + II	Homework 7 due on Oct 6
Nov 14	Lipids – Lipoproteins Lipids – Anabolic lipid metabolism	Homework 8 due on Nov 13

Nov 21	Lipids – Catabolic lipid metabolism Lipids – Cholesterol	Homework 9 due on Nov 20
Nov 28	Lipids – CHD Part I + II	Homework 10 due on Nov 27
Dec 5	Alcohol/Exercise Starvation/Diabetes 1	Homework 11 due on Dec 4
Dec 12	Diabetes 2, Obesity, Metabolic Syndrome / Problem based Questions	Homework 12 due on Dec 11

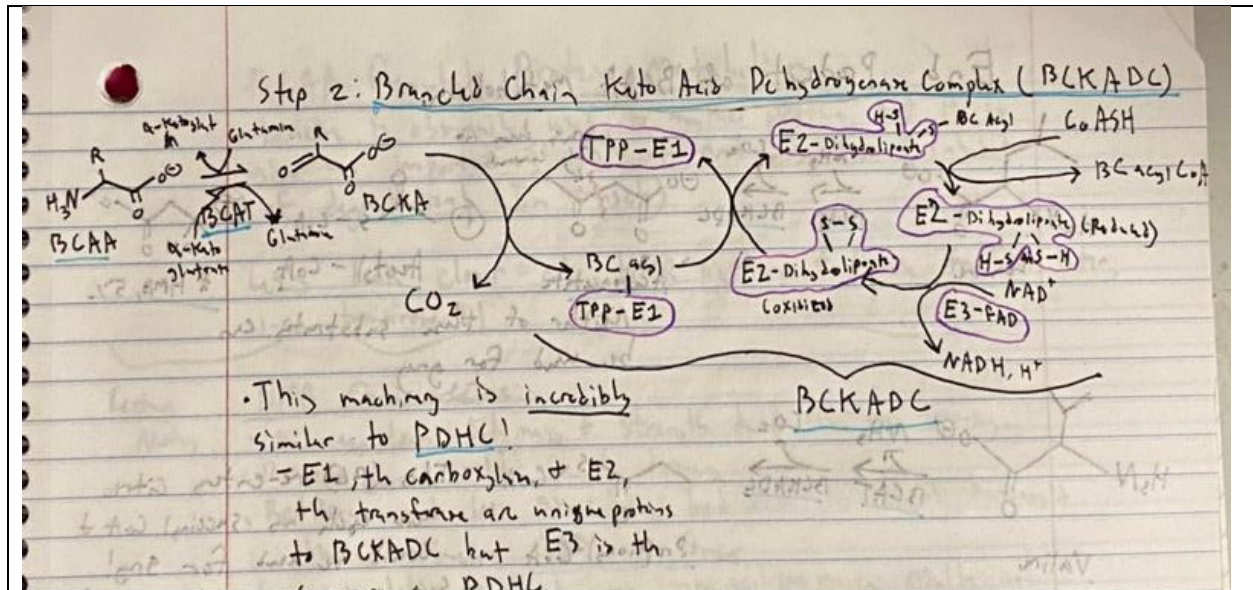


Figure 1. An example of a pathway from Matt’s notes on branched chain amino acid catabolism. It is important to always read figure captions; for example, by reading this caption, you know that if you email “Wow, great drawing, Mattelangelo!” to Matt, you can get 3 extra credit points in 11:709:402 (not transferrable to the lecture class).