



# EQN\*4020 Advanced Equine Nutrition

Winter 2023

Section(s): C01

Department of Animal Biosciences

Credit Weight: 0.50

Version 1.00 - January 05, 2023

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## 1 Course Details

### 1.1 Calendar Description

This course focuses on the nutrition of horses at peak levels of performance or endurance. The use of real-world, case-study scenarios allows for the evaluation of practical feeding programs across a range of equine performance situations.

**Pre-Requisites:** EQN\*2050 or NUTR\*3210

### 1.2 Course Description

A course in which students will learn about nutrient requirements and nutritional idiosyncrasies of horses, formulation and manufacturing of horse feed and supplements, and be introduced to the principles of clinical nutrition of horses and important health issues that are related to nutrition and/or treated through nutritional approaches.

Students should have an established understanding of the general principle of animal nutrition and physiology. The material in the course will build on this background to enhance the understanding of nutrient metabolism and requirements in performance horses.

### 1.3 Timetable

**Asynchronous** recorded lectures available at beginning of the semester. Students are responsible for reviewing lecture material prior to attending synchronous discussions.

**Synchronous discussion of lecture material live (MCKN 029) or via ZOOM** *Wednesdays, 2:30-3:50 pm.*

**Synchronous discussion of assignments and individual mentorship live (MCKN 029) or via ZOOM** *Fridays, 2:30-3:50 pm.*

Timetable is subject to change. Please see WebAdvisor for the latest information.

## 1.4 Final Exam

No final exam for this course.

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## 2 Instructional Support

### 2.1 Instructional Support Team

**Instructor:** Alexandra Rankovic BScH, MSc, PhD  
**Email:** arankovi@uoguelph.ca  
**Office Hours:** By appointment using Microsoft Outlook. No meetings should exceed 15 minutes.

### 2.2 Teaching Assistants

**Teaching Assistant (GTA):** Scarlett Burron BScH, MSc, PhD Candidate  
**Email:** sburron@uoguelph.ca  
**Office Hours:** By appointment using Microsoft Outlook. No meeting should exceed 15 minutes.

**Teaching Assistant (GTA):** Connor McCorkell BScH, MSc Candidate  
**Email:** tmccorke@uoguelph.ca  
**Office Hours:** By appointment using Microsoft Outlook. No meeting should exceed 15 minutes.

### 2.3 Netiquette Expectations

Netiquette Expectations

The course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply. Inappropriate behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students;
- Using obscene or offensive language;
- Copying or presenting someone else's work as your own;
- Adapting information from the Internet without using proper citations or references;
- Buying or selling term papers or assignments;
- Posting or selling course materials to course notes websites;
- Having someone else complete your quiz or completing a quiz for/with another student;

- Stating false claims about lost quiz answers or other assignment submissions;
  - Threatening or harassing a student or instructor;
  - Discriminating against fellow students, instructors, and/or TAs;
  - Using the course website to promote profit-driven products or services;
  - Attempting to compromise the security or functionality of the learning management system; and
  - Sharing your username and password.
  - Recording lectures without the permission of the instructor
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## 3 Learning Resources

### 3.1 Electronic Notes

Electronic copy of course notes with slide by slide recordings and additional material will also be posted on the course website. Synchronous zoom discussions will occur after these materials have been made available. Copies of course notes **are not** intended to be the sole source of information, but guide an academic discussion on course material. Students are expected to utilize other materials, such as scientific literature and recommended textbooks to further enhance their learning.

### 3.1 Additional Resources

None, but there are a number that will be valuable as you put together your assignments. These will be discussed in class, but please use the library and Web of Science/Google Scholar/Medline etc.

Students are encouraged to follow up lecture material with reading. Some good texts and white papers will be discussed and added if you are interested in enhancing your learning.

### 3.1 Course Technology and Technical Support

#### Course Technologies

**CourseLink:** This course is being offered using CourseLink (powered by D2L's Brightspace), the University of Guelph's online learning management system (LMS). By using this service, you agree to comply with the University of Guelph's Access and Privacy Guidelines. Please visit the D2L website to review the Brightspace privacy statement and Brightspace Learning Environment web accessibility standards.

<http://www.uoguelph.ca/web/privacy/> <https://www.d2l.com/legal/privacy/>  
<https://www.d2l.com/accessibility/standards/>

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

Email: [courselink@uoguelph.ca](mailto:courselink@uoguelph.ca)

Tel: 519-824-4120 ext. 56939 Toll-Free (CAN/USA): 1-866-275-1478

*CourseLink Support Hours (Eastern Time):*

Monday thru Friday: 8:30 am–8:30 pm

Saturday: 10:00 am–4:00 pm

Sunday: 12:00 pm–6:00 pm

**Teams (via Office 365):** Office 365 Teams is a collaboration service that provides shared conversation spaces to help teams coordinate and communicate information. This course will use Teams for one-on-one meetings with your instructor and teaching assistants. It is recommended that you use the desktop version of Teams. As a student you are responsible for learning how to use Teams and its features.

For Teams Support visit the CCS website for more information:  
<https://www.uoguelph.ca/ccs/services/office365/teams>

**Zoom:** This course uses Zoom for lectures. Check your system requirements to ensure you will be able to participate.

<https://opened.uoguelph.ca/student-resources/system-and-software-requirements>

### 3.1 Technical Skills

As part of your learning experience, you are expected to use a variety of technologies for assignments, lectures, teamwork, and meetings. In order to be successful in this course you will need to have the following technical skills:

- Manage files and folders on your computer (e.g., save, name, copy, backup, rename, delete, and check properties);
- Install software, security, and virus protection;
- Use office applications (e.g., Word, PowerPoint, Excel, or similar) to create documents;
- Be comfortable uploading and downloading saved files;
- Communicate using email (e.g., create, receive, reply, print, send, download, and open attachments);
- Navigate the CourseLink learning environment and use the essential tools, such as Dropbox, Quizzes, Discussions, and Grades (the instructions for this are given in your course);
- Access, navigate, and search the Internet using a web browser (e.g., Firefox, Internet Explorer); and
- Perform online research using various search engines (e.g., Google) and library databases.

### 3.1 Library Access

As a student, you have access to the University of Guelph's library collection, including both physical and electronic materials. For information on checking out or couriering physical library items, accessing electronic journals and returning items to the library, visit the library's website.

If you are studying off campus and would like to access the library's electronic resources, use the Off Campus Login and login using your Single Sign On credentials or using your last name and library barcode.

<https://www.lib.uoguelph.ca/>

<https://www.lib.uoguelph.ca/campus-login>

The library also offers many additional resources, including support for writing, studying, time management, and presentation skills.

## 4 Learning Outcomes

### 4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. **Critical and Creative Thinking:** *Inquiry and Analysis, Problem Solving, Creativity, Depth and Breadth of Understanding* Critical and creative thinking is a concept in which one applies logical principles, after much inquiry and analysis, to solve problems in with a high degree of innovation, divergent thinking and risk taking. Those mastering this outcome show evidence of integrating knowledge and applying this knowledge across disciplinary boundaries. Depth and breadth of understanding of disciplines is essential to this outcome.
2. **Literacy:** *Information Literacy, Quantitative Literacy, Technological Literacy, Visual Literacy* Literacy is the ability to extract information from a variety of resources, assess the quality and validity of the material, and use it to discover new knowledge. The comfort in using quantitative literacy also exists in this definition, as does using technology effectively and developing visual literacy. Students will be required to critically review and understand the up-to-date scientific information on equine nutrition compiled in course notes and lecture material. The students will also be required to review scientific papers and technical documents, comprehend, and present ideas and findings into an imposed format.
3. **Communicating:** *Oral Communication, Written Communication, Reading Comprehension, Integrative Communication* Communicating is the ability to interact effectively with a variety of individuals and groups, and convey information successfully in a variety of formats including oral and written communication. Communicating also comprises attentiveness and listening, as well as reading comprehension. It includes the ability to communicate and synthesize information, arguments, and analyses accurately and reliably.
4. **Professional and Ethical Behaviour:** *Teamwork, Ethical Reasoning, Leadership, Personal*

*Organization and Time Management* Professional and ethical behaviour requires the ability to accomplish the tasks at hand with proficient skills in teamwork and leadership, while remembering ethical reasoning behind all decisions. The ability for organizational and time management skills is essential in bringing together all aspects of managing self and others. Academic integrity is central to mastery in this outcome.

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## 5 Teaching and Learning Activities

### 5.1 Lecture

#### Week 1

**Topics:** Introduction and Reading a Scientific Paper

**Wednesday:** Introduction to course, how to read a scientific paper and an example of the paper overview assignment

**Friday:** No lecture or discussion. Instructor available for questions and clarification in person or over zoom.

#### Week 2

**Topics:** Equine Digestive Anatomy and Physiology

*Intros DUE at end of week through Dropbox (Friday Jan 20)*

#### Week 3

**Topics:** Feeding Behaviour in Horses

*Paper overview #1 DUE at end of week in Dropbox (Friday Jan 27)*

#### Week 4

**Topics:** Equine Energy Metabolism and Requirements

*Paper overview #2 DUE at end of week in Dropbox (Friday Feb 3)*

#### Week 5

**Topics:** Equine Carbohydrate Metabolism and Requirements

*Paper overview #3 DUE at end of week in Dropbox (Friday Feb 10)*

#### Week 6

**Topics:** Equine Protein Metabolism and Requirements

*Paper overview #4 DUE at end of week in Dropbox (Friday Feb 17)*

**Week 7**

**Topics:** READING WEEK

Week of February 20th; no discussion this week.

**Week 8**

**Topics:** Equine Lipid Metabolism and Requirements

*Ration formulation #1 DUE at end of week in Dropbox (Friday March 3).*

**Week 9**

**Topics:** Anti-Nutritional Factors in Equine Feeds\*

\*Presented by Mic Crosbie, MSc, PhD Candidate University of Guelph

Fat Soluble Vitamins

*Ration formulation #2 DUE at end of week in Dropbox (Friday March 10).*

**Week 10**

**Topics:** Water Soluble Vitamins and Minerals

**Week 11**

**Topics:** Water and Electrolyte Metabolism\*

\*Presented by Connor McCorkell, MSc Candidate University of Guelph

*Annotated Bibliographies for Infographics DUE at end of week in Dropbox (Friday March 24).*

**Week 12**

**Topics:** Nutritional-Related Equine Diseases

**Week 13**

**Topics:** Nutrition-Related Issues for Sport Horses



## Bringing it Altogether

*Infographics DUE in Dropbox Monday April 10 (Friday April 7 = Holiday/Good Friday)*

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## 6 Assessments

### 6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Introduction and Course Goals	5
4 Separate Paper Overviews	20
Formulation Assignments	30
Infographic and Annotated Bibliography	40
Discussion Board Participation	5
Total	100

### 6.2 Assessment Details

#### Introduction and Course Goals (5%)

**Due:** Week 2

**Learning Outcome:** 1, 2, 3, 4

Students are asked to write **approximately half a page (no more than 450 words)** introducing themselves to Dr. Rankovic. Students are asked to discuss their own motivations, learning objectives and/or expectations for this course. Students should also consider any barriers that they anticipate may prevent them from meeting their personal goals and how they plan to navigate these.

This assignment will be graded based on a five-point scale. A 5 reveals a level of critical introspection, interest in finding learning opportunities and understanding of the course that is greater than expected, coupled with a professional and positive mindset. A 4/5 meets expectations and a 3/5 or less beings to identify areas that require improvement because the level of reflection, understanding and/or attitude towards the learning objectives of this course are less than expected.

#### 4 Separate Paper Overviews (20%)

**Due:** Weeks 3, 4, 5 and 6

**Learning Outcome:** 1, 2, 3, 4

Guidance on how to discuss aspects of scientific literature will be introduced in class.

Students are asked to write 200 words or less on the assigned scientific paper as a brief news report. The overviews should be written in language that any horse owner could understand. The 200 words should explain the background, the reason for the study, the key findings, and what those mean to horse owners.

Each summary is worth 5% of your mark.

*Teaching assistant responsible: Connor McCorkell*

### **Formulation Assignments (30%)**

**Due:** Weeks 8 and 9

**Learning Outcome:** 1, 2

Students will have **two formulation assignments** which will build on each other, starting with simple calculations to determine intake of hay and nutrients and then building in complexity with an added concentrate to meet the requirements of performance horses. Further details will be provided in form of tutorials and as the course material is taught to students.

*Teaching assistant responsible: Scarlett Burron*

### **Infographic and Annotated Bibliography (40%)**

**Due:** Week 11: Annotated Bibliography, Week 13: Infographic

**Learning Outcome:** 1, 2, 3, 4

Students must select the topic they will cover and their group (3-4 students) prior to February. Students may choose a topic from a list that will be provided on Courselink. Failure to do so will result in a deduction of 2% from a total of 20%.

This assignment focuses on a topic of interest to the horse community and will be done as an infographic. Students will work in groups of 3 or 4 and complete a review of the literature on the topic, complete an annotated bibliography (20%) for the papers that they will intend to use to support the information shared in the infographic (20%). Students will be graded on depth of research and accuracy of interpretation for the annotated bibliography and on the extent to which the infographic provides a lay summary in an easy to understand and scientifically accurate format. Creativity is a plus!

*Teaching assistants responsible:*

Annotated bibliography: Scarlett

Infographic: Connor

*Library resources to consider:*

Annotated Bibliography: <https://guides.lib.uoguelph.ca/AnnotatedBibliography>

Infographics: <https://guides.lib.uoguelph.ca/Infographics>

### Discussion Board Participation (5%)

Each lecture, questions will be provided within the asynchronous lecture that will be discussed in the synchronous lecture.

Students are expected to participate in the discussion **prior to the synchronous lecture on Wednesday**, and marks will be awarded by Rankovic based on discussion board participation and up to 5%. Students are encouraged to ask questions that will either clarify very important topics or go deeper into a topic. Students should attempt to fill any gaps by looking in the literature. References should be listed.

If these types of proficient behaviour are noted, students will be granted a mark and these marks will accumulate throughout the course progression. Students will not be awarded marks for repeating anything said in lecture, repeating something said in a previous post, for only asking a question, or for simply agreeing or disagreeing with a post. Students need to ensure succinct and professional communications. **Posts should be no more than 400 words**, but images/figures/graphics can be used by the student if they feel it helps to clarify things. *No more than 2 posts per student will be marked.*

## 7 Course Statements

### 7.1 Flexible Deadline Policy

All assignments are due by Friday at 5pm, and should be submitted through Dropbox on Courselink. However, **students can submit an assignment until Monday at 8am without being penalized or having any marks deducted.**

However, **the instructor and teaching assistants will NOT answer any emails related to the assignment once the Friday deadline has passed.**

Past Monday at 8am, no late assignments will be accepted except for compassionate reasons as outlined under academic consideration. Extensions will be considered if requested ahead of time.

### 7.2 Email Policy

Students should email from their uoguelph.ca accounts, and include "EQN4020" within the subject line of their email.

For questions regarding an assignment, please contact the teaching assistant assigned to said assignment first. Your instructor and the teaching assistants are not expected to answer emails on weekends or evenings (after 6pm). Anticipate that emails will be answered within 2 business days. **Strongly consider sending emails related to an assignment at least 2 days before the deadline.**

Emails related to an assignment will not be answered after the deadline has passed (Friday at 5pm).

### 7.3 Grading Policies

Assignments will be graded in a timely fashion (within 10 days) and they will be returned to the students with personalized feedback and/or general feedback to highlight some of the shortcomings in the students' work or understanding of the concepts.

### 7.4 Group Work

Assignments are expected to be unique work. All group members will receive the same grade for group work assignment unless otherwise approved by the Instructor. Any problems associated with group work should be brought to the attention of the instructor as soon as possible.

### 7.5 Dropbox Submissions

Assignments should be submitted electronically via the online **Dropbox** tool. When submitting your assignments using the **Dropbox** tool, do not leave the page until your assignment has successfully uploaded. To verify that your submission was complete, you can view the submission history immediately after the upload to see which files uploaded successfully. The system will also email you a receipt. Save this email receipt as proof of submission.

Be sure to keep a back-up copy of all of your assignments in the event that they are lost in transition. In order to avoid any last-minute computer problems, your instructor strongly recommend you save your assignments to a cloud-based file storage (e.g., OneDrive), or send to your email account, so that should something happen to your computer, the assignment could still be submitted on time or re-submitted.

It is your responsibility to submit your assignments on time as specified on the Schedule. Be sure to check the technical requirements and make sure you have the proper computer, that you have a supported browser, and that you have reliable Internet access. Remember that **technical difficulty is not an excuse not to turn in your assignment on time**. Don't wait until the last minute as you may get behind in your work.

If, for some reason, you have a technical difficulty when submitting your assignment electronically, please contact your instructor or CourseLink Support.

<http://spaces.uoguelph.ca/ed/contact-us/>

## 8 University Statements

### 8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

### 8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

### 8.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

### 8.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be

asked to resubmit work at any time.

## 8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For Guelph students, information can be found on the SAS website  
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website  
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

## 8.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community—faculty, staff, and students—to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct  
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct  
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

## 8.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## 8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

## 8.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

## 8.10 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major assignment).

## 8.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campuses/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campuses/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.

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