



HK*4360 Research in Human Health and Nutritional Sciences

Summer 2019

Section(s): C01

Department of Human Health and Nutritional Sciences

Credit Weight: 1.00

Version 1.00 - April 23, 2019

1 Course Details

1.1 Calendar Description

The student will select a research topic and design and complete a project in an area of interest, in consultation with a faculty advisor. Students must make arrangements with both a faculty advisor and the course coordinator at least one semester in advance and the signature of the course coordinator will be required to select the course. A departmental registration form must be obtained from the course coordinator and submitted no later than the second class day of the semester in which the student is registered for the course.

Pre-Requisites: 12.00 credits
Restrictions: Course coordinator consent required.

1.2 Course Description

This 1 credit course (1.0 credit in one semester) allows you to pursue an experimental approach to a topic of your choice. This project should require approximately 18 to 24 hours per week. Students will require a faculty advisor to complete these courses.

1.3 Timetable

There is only one formal class meeting for this course: the last class meeting of the Summer 2019 semester for student seminar presentations (Tues July 30, 2019, time and rooms TBA).

1.4 Final Exam

There is no final exam for this course.

2 Instructional Support

2.1 Instructional Support Team

Course Co-ordinator:	David Dyck
Email:	ddyck@uoguelph.ca
Office:	ANNU 345
Office Hours:	Appointments can be scheduled as necessary through email.

3 Learning Resources

3.1 How to Register for a Research Project Course

- In order to register for the course, you first need to find a faculty advisor. This would be someone who's area of research interests you. Generally, this can be accomplished by looking at faculty profiles to see who's research interests you, or possibly based on who taught a favourite course that really stimulated you. Then, email that faculty to see if they will advise you. Your advisor must be a faculty member - see below.
- Once you have found an advisor, you and your advisor need to fill out/sign the [course information form](#) (this is different from the University course waiver form), and then bring this form along with the University course waiver form to the course coordinator, Dr. David Dyck (ANNU 345), who will sign the instructor consent on your waiver form.
- Please note that your faculty advisor only signs your course information form, and NOT the University course waiver form - the course coordinator (Dr. David J. Dyck) does that.
- Please note that EVERY student registered in a research project course within the College of Biological Science is required to complete a brief, online safety module. You will be contacted by someone within the College regarding how to sign up for this online module. This must be completed and the certificate shown to your advisor before beginning work in the lab.

3.1 Form

Department of Human Health and Nutritional Sciences

- HK*4230 Advanced Study in Human Biology and Nutritional Sciences
- HK*4360 Research in Human Biology and Nutritional Sciences

- HK*43712 Research in Human Biology and Nutritional Sciences
- This form must be completed **prior** to requesting a signature on the course waiver form (instructor consent is required for registration in any of the above listed courses).
- Detailed course descriptions can be found on our departmental website at: <http://www.uoguelph.ca/hbns/undergraduate.shtml>

TO BE COMPLETED BY STUDENT:

Name: _____ ID #: _____

U of G Email address: _____ Major: _____

Current Semester: _____ Signature: _____

Do you have the required prerequisite of 12.00 credits? Yes No

Semester and Year course will be taken: Spring Fall Winter 20__

Intended course: HK*4230 (Lit Rev) HK*4360 (Research Project) HK*43712 (Research Project)

TO BE COMPLETED BY FACULTY ADVISOR:

Is the proposed lit review/project relevant to the general area of human health? Yes No

Indicate which of the following 5 areas most closely describes the project: Nutrition / nutraceutical sciences / nutrigenomics, Physiology / metabolism / genetics, Exercise Physiology / Performance, Biomechanical / neural / movement, Biomedical

For Research Projects Only:

Does this project involve actual hands-on experience in a lab, field or other research environment? Yes No

Does this project involve only the analyses of data already collected? Yes No

Does the proposed project involve the use of animal or human subjects? Yes No

If yes, has the necessary ethical approval been, or will be obtained? Yes No

If ethical approval is not yet in place, is there a default plan for the student's project should the required approval not be obtained in time for planned experiments? Yes No

Name: _____ Dept.: _____

Signature: _____

Please return this form to the course coordinator, Dr. David J. Dyck, Rm 345 Animal Science/Nutrition Bldg.

**** remember to bring a course waiver form with you, for signature ****

(available at Registrarial Services, 3rd floor, UC or online)

4 Learning Outcomes

4.1 Course Learning Outcomes

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

1. Develop critical thinking.
 2. Develop integration of information.
 3. Develop Scientific writing skills.
 4. Develop independent thought process
 5. Develop scientific oral presentation skills.
 6. Develop analytic and data analysis skills.
 7. Design a study and generate hypotheses.
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5 Teaching and Learning Activities

5.1 Important Dates

- Research Proposal, Fri, June 7, 2019 (by 4 pm, at Dr. Dyck's office Rm 345)**
- Seminar, Tues July 30, 2019 time and location TBA
- Paper, Fri Aug 2, 2010 (by 11:59 pm)** email to advisor and cc to ddyck@uoguelph.ca

- ** Late penalty: 5% per day
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6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Research Proposal	10
Seminar	25
Paper	65
Total	100

6.2 Assessment Details

Research Proposal (10%)

Due: Fri, Jun 7, 4:00 PM

Learning Outcome: 1, 2, 3, 4, 7

Due at Dr. Dyck's office, ANNU 345, **no later than 4:00 pm** (there will be a box for drop off or use the folder on the door).

Seminar (25%)

Date: Tue, Jul 30, 11:30 AM - , 1:00 PM

Learning Outcome: 1, 2, 4, 5

- Presentation Schedule TBA
- The HK*4360 Presentation Evaluation Form (the form and grading structure that is used to evaluate your presentation) is available on Courselink, under "Contents"

Paper (65%)

Due: Fri, Aug 2, 11:59 PM

Learning Outcome: 1, 2, 3, 4, 6, 7

- Papers should be submitted by email directly to the advisor **and cc'd to Dr. David J. Dyck, ddyck@uoguelph.ca, to confirm that papers have been submitted on time.** Extensions are generally not granted, and must be done by the Course Coordinator (Dr. Dyck) and not your advisor.
- Note: Late penalty: 5% per day for both the proposal and final paper

6.3 Evaluation - Research Proposal

All students will prepare a research proposal for their intended study. Proposals should be approximately 3 pages and follow the following format:

- Course name, title of project, student name/ID, advisor name.
- 12-point font, double-spaced
- Approximately a one page (succinct!) introduction with the necessary background information, ending in a clear statement of the hypothesis(es) or objectives. A few key references may be used in the text (abbreviated journal name, volume, pages, year) as necessary.
- Approximately one page or less of methods to be utilized, ending with the anticipated findings and how these would support your hypotheses.
- A final page indicating the approximate budget. This does not need to be exact; it is designed to give the students an appreciation and perspective of the costs associated with research. This will likely require some input from your project advisor. Even if your project is a part of a larger study, you should indicate the costs relevant to what you are doing.

LATE SUBMISSIONS ARE PENALIZED. Proposals will be graded by the course coordinator.

6.4 Evaluation - Seminars

- The seminar at the end of the semester is a presentation of the results of your work. Students will have 10 min presentation plus a 5 min question period.
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- Power Point should be used. Generally, you should show up to your scheduled seminar presentation about 10 min early and bring your presentation to the seminar on a USB memory for loading. If you want to use your own lap, you may, but you are responsible for bringing any special adaptors to connect to the VGA cable for the projector. These will not be provided.
- Any time required to troubleshoot hooking up your laptop will be deducted from the allotted time.
- Attendance at the complete presentation session is **MANDATORY**. The schedule for presentations will be posted on Courouselink approximately 2 weeks prior to seminar day.
Seminars will be graded by Human Health and Nutritional Sciences faculty. Due to room size limitations, only the students presenting may attend (i.e. no guests, faculty advisors, etc.).

6.5 Evaluation - Paper

- The paper, including an abstract (200 words maximum), is a detailed presentation of the findings of your work and should be handed to the course assistant for evaluation by your advisor. The paper format should follow standard research publications i.e. Major headings including introduction, methods, results, discussion and references, as well as any necessary tables and figures. Please discuss the expectations with your advisor. The format to be used for in-text referencing and the bibliography should also be agreed upon by you and your advisor. Typically, this would be a referencing style used by one of the major physiology, nutrition or biomechanics journals; however, there is no specific format that must be followed for this course.
- LATE SUBMISSIONS ARE PENALIZED at 5% per day. Papers should be submitted by email directly to the advisor **and cc'd to Dr. David Dyck, ddyck@uoguelph.ca, to confirm that papers have been submitted on time**). Extensions are generally not granted, and must be done by the Course Coordinator (not the advisor).
- The abstract enables the reader to identify the basic content of a document quickly and accurately. References to the literature are usually omitted. The abstract should:
 - state the principal objective(s), question(s), or hypothesis (es) under investigation;
 - state the scope of the investigation;
 - briefly describe the methodology used;
 - summarize the results using specific data and indicating statistical significance;
 - state the principal conclusions;
 - state the scientific or clinical relevance

6.6 Hints

The Seminars

- Use several simple graphics (graphs and charts) rather than one complicated one, especially if you plan to discuss a subject at length. If the analysis of the

graphics by a viewer will require more than 20 sec, consider using a sequence of graphs to progressively disclose the information. The more changes that you use, the less chance of losing your audience.

- Don't leave a graphic on the screen after discussing it.
- Limit each graphic to one main idea.
- Use graphics or illustrations wherever possible.
- Don't go too fast! To analyse a graph requires more time than viewing a visual image. Add a few seconds to your own analysis time (since you are more familiar with it than your audience!).
- Don't make things too complicated or cluttered for your audience.
- Examples:
 - When using line graphs, do not exceed 3 to 4 lines. Simplify scales.
 - When using bar graphs, do not exceed 7-8 bars. Avoid crowding.
 - When presenting text, limit the text to 6-8 words per line and 6 lines per slide. DO NOT OVERDO THE AMOUNT OF TEXT IN YOUR PRESENTATIONS OR USE TOO SMALL A FONT.
- The more familiar you are with the information and graphics, the better your presentation. Preview your material and run through it prior to presentation.

Evaluation of Seminars

- The following aspects of your presentation will be considered in establishing a grade:
 - Is the research hypothesis clear and delimited?
 - Is there a logical introduction to the hypothesis?
 - Is there a clear description of the important details of the methods used? the protocol followed? the important details of the results?
 - Were logical conclusions drawn around the research hypothesis?
 - Was the presentation clear and concise verbally? visually?

The Paper

- There is not a minimum or a maximum number of references. The number will

be determined by the topic of the research. Use the primary literature. Abstracts and reviews may be included in certain circumstances. Do not use the Internet unless you are quoting information from electronic versions of peer-reviewed journals.

- It is often beneficial to write the Abstract for the paper after completing the Introduction and the Methods sections but before starting the Results and Discussion. This helps to focus your thinking and assists in the identification of the significant ideas.
- The following aspects of your paper will be considered in establishing a grade:
 - Is the research hypothesis clear and delimited?
 - Does the introduction logically support the hypothesis?
 - Is there a clear description of the important details of the methods used? the protocol followed? the important details of the results?
 - Were logical conclusions drawn around the research hypothesis?
 - Was the paper organized in a clear and concise manner?
- Don't forget ... your advisor will be grading your research paper! The guidelines above are just that ... guidelines! Be clear on what your advisor expects!

7 Course Statements

7.1 You, Your Advisor, and the Research Project

- Begin by identifying a GENERAL area of research for your topic. Clicking on faculty research links on the department web site is a good way to begin, or by reading recent publications of a potential advisor to determine your level of interest in that subject. Be open minded about your topic and advisor. Also, the advisor must be a University of Guelph faculty ... but not necessarily from OUR department. Clearly, the topic should be something relevant to human health, nutrition, or metabolism. Graduate students, research technicians, postdoctoral fellows, etc., CANNOT act as advisors.
- Start early !!!!! Most faculty will only accept a few students at any given time, so "spots" are limited. Some ways of approaching faculty are more successful than others. Contact can be made either by phone, email, or in person. Provide as

much information about yourself as you can: your program; general background including courses, previous research or laboratory experience; motivation/reason for doing research, etc.

7.2 Grading

- Papers are graded by your faculty advisor. Extensions are generally not granted, and must be done by the Course Coordinator (not the advisor).
- Seminars are graded by a faculty member from Human Health and Nutritional Sciences who will attend the seminar session.

8 Department of Human Health and Nutritional Sciences Statements

8.1 Academic Advisors

If you are concerned about any aspect of your academic program:

- Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

8.2 Academic Support

If you are struggling to succeed academically:

- Learning Commons: There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist. <http://www.learningcommons.uoguelph.ca/>
- Science Commons: Located in the library, the Science Commons provides support for physics, mathematic/statistics, and chemistry. Details on their hours of operations can be found at: <http://www.lib.uoguelph.ca/get-assistance/studying/chemistry-physics-help> and <http://www.lib.uoguelph.ca/get-assistance/studying/math-stats-help>

8.3 Wellness

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. <https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. <http://www.uoguelph.ca/~ksomers/>

9 University Statements

9.1 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.

9.2 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>

9.3 Drop Date

Courses that are one semester long must be dropped by the end of the fortieth class day; two-semester courses must be dropped by the last day of the add period in the second semester. The regulations and procedures for course registration are available in the Undergraduate and Graduate 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>

9.4 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.

9.5 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 book their exams at least 7 days in advance and not later than the 40th Class Day.

More information can be found on the SAS website
<https://www.uoguelph.ca/sas>

9.6 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>

9.7 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.

9.8 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>
