NFS 295, Experimental Research & Nutrition (3 credits)

Term: Spring 2020
Meeting times and location: Tuesdays and Thursdays, 1:15-2:30 PM, Rowell Hall, Room 110

Instructor: Dr. Patrick Solverson
Office: Room 353, Carrigan Wing
Email: patrick.solverson@uvm.edu,
Office Hours: by appointment - https://calendly.com/patrick-solverson/15min

Pre-requisites or co-requisites

NFS 183, senior or graduate standing

General education (e.g. D1) or other requirements satisfied

none

Course Description

The purpose of this course is to allow you to hone reading, writing, and presentation skills as they relate to your topics of interest in nutrition and/or food science. Through a companion text, you will learn to identify and practice effective written communication, both in published works as well as in your own writing. Your selected studies and a short writing assignment will be the basis of the assigned exercises throughout our semester. Through daily presentations of the written assignments, as well as through a formal presentation of your term project, you will become more comfortable in discussing scientific works, thinking critically, and sharing your own ideas on how to advance society's understanding on your selected topic. The general approach to each class session will be a brief review and discussion of the assigned chapter, lead by Dr. Solverson, followed by your presentation of the assigned exercise as it applies to your selected articles and your own short essay. Later sections will also include editing workshops of each other's term paper, the opportunity to practice your presentation with the class, and to "journal club" articles of your interest as time permits.

Course Learning Objectives

The two main objectives of this course are 1, to become well equipped to interpret and critique primary research in nutrition and/or food science, and 2, to understand the writing style(s) used to effectively communicate in scientific research. To meet these objectives, you will scrutinize articles related to your selected topic areas as well as workshop your own prose in a writing club setting.

The ultimate goal is to come away from the course with an appreciation for (and ability to perform) clear scientific writing for a variety of audiences. Nested in that goal will be a tangible document that can be used for your own graduate project or, if you are a senior, to research a topic that may inform your interest in graduate research, and where to apply for study. More details regarding the research proposal assignment are found on page 5.

After completing this course, you will be able to:

1. Independently interpret primary scientific communications for content and clarity.
2. Lead discussions and presentations on your interpretation of primary scientific communications to your peers.
3. Edit, interpret, and constructively comment on the documents of your peers.
4. Research a topic of interest and draft a research proposal.
5. Engage in civil discourse.

Required Course Materials:

Required text: "Writing Science: How to write papers that get cited and proposals that get funded" by Joshua Schimel. ISBN 978-0-19-976024-4. New paperback copies can be found on Amazon for $35. We will use this companion text to scaffold our discussions and writing exercises across the semester. A research topic will be selected by you and a few relevant articles, along with a "mini-proposal" written by you, will be the basis for the exercises and group discussions described at the end of each chapter. The assigned exercises are employed to improve clarity in one's writing as well as to critically review the articles relevant to each other's topic area and resultant research proposal.

Your first assignment, as described on pg. 14 of Schimel, will be to identify 4 research articles that fit the respective criteria described in the exercise. These 4 articles are expected to fall within your topic area and ideally form the foundation of your research proposal. You (and the class) will come back to these same articles throughout the semester to work through the exercises described in our companion text.

Obtaining research articles for class assignments and for the research proposal: For the sake of finding your 4 articles, as well as building out the references related to your research proposal, it is imperative that you are equipped with good research skills and are aware of the search engines and databases at your disposal. Any article behind a pay-wall can be obtained for you (for free) by Howe Library. We will have a guest lecture by Christie Silkotch, Science and Data Librarian at Howe, to identify and describe these research tools for you. Please note: *you should never pay money to access a research article on a journal's website.* Your tuition grants you access to any and all research articles; if the University does not have the subscription to your journal of interest, they can get you a copy through inter-library loan.

Reference texts: I have been told by colleagues more familiar in the area of food science that the discipline is too broad; there is not a "go-to" reference text that encompasses all of food science the way I have one for nutritional biochemistry. If you are struggling with a concept in food

science related to your research proposal topic, see me and I will work with you to identify relevant textbooks in the topic area.
Foundational concepts in the discipline of nutritional biochemistry are covered in Gropper and Smith's "Advanced Nutrition and Human Metabolism", 7th edition. This text is only recommended if you wish to brush up on concepts – it is a required text for both NFS 243 and BIOC 263, so you may already have a copy. I have a copy of the 5th edition that you may borrow from me if needed.

Blackboard or other course sites:

I will ask you to use blackboard to upload your assigned exercises. I will post the 4 articles you select (as described at the end of chapter 2) so everyone can access them at any time. I will also post your grades from your assigned exercises (grading described below).

Attendance Policy and Classroom Environment Expectations:

You have probably noticed by now (through my pleas on the NFS list-serv) that this is a very small class size. This has great advantages, but also comes with great responsibility. Attendance is absolutely required; we cannot create a positive environment for discussion if people are routinely missing class. There is an assumption that you have prepared for each class period, i.e., you have fully read each assigned chapter and are prepared to engage in discussion or lead discussion/present on your assigned exercises. If you are skipping class and/or not reading the assignments and performing the assigned exercises, the quality of the discussion is negatively impacted for everyone. I understand that emergencies and illnesses happen. If one happens to you – it is your job to notify me ***before class*** that you will be absent. Chronic absenteeism will not be tolerated – if you are not willing to attend every class and participate fully, this course is not for you.

Please note: I completely understand that life can get complicated (chronic illness, family emergencies, accidents, etc.). I am actually not a big fan of forcing attendance, but it is integral to the success of a small writer's workshop course like this. My hard line about attendance is not meant to be intimidating, especially if you find yourself or a loved one in a complicated matter during our semester together (please see resources available to you listed later in this syllabus). Life is full of uncertainty and I have no intention of punishing you for emergencies that could complicate your attendance record. That said, these sorts of circumstances are best sorted out with a University Official (Kate Woodruff, Associate Dean of Student Services and Academic Programs). If the unthinkable happens, Kate and I will work with you to find the most appropriate solution that is fair to you.

Classroom environment: What I wish for you is a semester full of useful exercises that allow you to improve in both your scientific writing and presentation skills all while learning more about your topic of interest. I encourage critical thinking, synthesis of new ideas, and lots of constructive criticism amongst each other. Counter to today's tumultuous political times, you can engage in civil discourse without debasing your colleague or attacking their person. *There is zero tolerance for rancorous debate in this class*. It is expected that you will respect one another

(and me) as dignified people in this world who are trying to do good (*we are all on the same team*). Criticism of one another's works and presentations should be made constructively and in good faith. Your goal as a recipient of feedback is to improve your work or entertain a perspective that may not have occurred to you. Your goal as one who gives feedback is to help the reviewee succeed in their pursuits. Anyone found to be engaging in destructive behavior towards a peer in this course will be dismissed immediately and will answer to the Dean.

Technology Policy: Smartphone use during class is absolutely forbidden unless you are monitoring a personal/family crisis. I expect your phones to be off or at least silenced (not even vibrate, unless, again, you are monitoring something back home that can't wait 1 hour and 15 minutes). Laptops are only permitted as long as it is used for notetaking or to follow along on course related material. If you are caught ignoring the class/on social media, your laptop privilege will be revoked.

Grading Criteria/Policies:

Grading in this course should be no mystery to you (if it ever is, please see me). I can say with certainty that if you attend class, participate fully in discussions/presentations, hand in the assigned exercises, and workshop and present on your research proposal, then you will be satisfied with your grade. We are all coming from different backgrounds both educationally and personally, and this course is not about memorization and regurgitation of facts/concepts. Rather, this class is designed to improve your reading, writing, critical thinking, and presentation skills. The homework assignments you hand in throughout the semester are a means to track your progress and to demystify your standing in the course; it should be clear to you at any point throughout the semester whether or not your effort is satisfactory.

Grades are determined by evaluation across 3 components: participation (60%), a research proposal document (30%), and formal presentation of the research proposal (10%). Total points will add up to 100.

Participation (60% of grade):

Stated earlier, this course will not operate successfully unless you attend all classes, perform the exercises, and present your exercises to the class. The "unit of measure" of the participation grade is the documentation you hand in to me from each assigned exercise. Grading of the exercise document is essentially pass/fail and is comprised of 2 questions: *did the student present their findings to the class*? *And, did the student hand in the written work to Dr. Solverson*? If you can check both boxes for each assigned exercise, you will receive full credit. If one of these components is missing, you will receive zero credit. Hopefully the grading schema of this class is becoming obvious: show up (participate fully), do the work (try hard), and you will succeed.

These assigned written exercises and subsequent presentations are designed for you to practice the principles that are covered across the chapters of our companion text. They are not intended to overburden you, and should not require you to "burn the midnight oil". I anticipate each assignment taking between 1-2 hours, and the drafting you do should lead to at least 15 minutes

worth of presentation material each period – this will become easier throughout the semester and this is a place for you to hone your presenting skills (Dr. Solverson and the class will be supportive of wherever you start in your journey). Presentations that do not make it to 15 minutes will be given "constructive nudges" by Dr. Solverson to stimulate your creativity/critical thinking about the assigned topic.

There are a total of 20 written assignments (including your first draft of your term paper) that you will need to hand in throughout the semester (detailed in the schedule at the end of this document). 60 points / 20 assignments = 3 points per assignment

Research Proposal (final submitted document is 30% of grade):
The exercises throughout this course are designed to improve your written communication skills. The focus of the exercises in the later part of the semester will allow you to workshop your research proposal with your peers. I will grade (review) your final research proposal as if you have submitted it to a funding agency and provide critical feedback that you can use to continue to polish the written piece after the completion of our course. Here, again, your grade should be obvious: I will have documentation of how the proposal has improved throughout your workshopping exercises with your peers. Evidence of your concerted effort to improve the quality of your proposal from first draft to final submission will result in a high grade.

Please note: Grant writing is an important skill and will serve you well, no matter what you go on to do. Some employers would count a grant document from a college course as "grant writing experience" so make it work for you beyond this course. If you are enrolled in a graduate program, this research proposal will likely have a lot of overlap with graduate documents that you already will need to include in your dissertation or thesis. If you are an undergraduate, this is an opportunity to become more acquainted with the literature (and the gaps in knowledge) in your selected topic.

I am asking you follow the USDA-NIFA's seed grant guidelines, but I am happy to make exceptions if there is a differently formatted grant opportunity that you would prefer to workshop, or even submit to if you meet the eligibility criteria. I encourage you to explore other fellowship/grant opportunities that apply to you and am happy to substitute that document for your term paper. If you elect to write an application to a different grant opportunity, it must be comparable in effort to the seed grant guidelines (approximately 7 pages, single-spaced, not including reference list).

<u>USDA-NIFA seed grant guidelines</u>
The instructions for the seed grant (as advertised by the USDA) will be available on blackboard. I will also include an example of my grant that I submitted in the summer of 2019. You will only be expected to write the project summary (250 word abstract), logic model (1 page), and project narrative (7 pages, single spaced) sections of the grant application. I will not ask you to include any other sections (budget, facilities, etc).

If you choose to seek out a different grant application (and I would encourage you to if the seed grant is not your cup of tea) you must share the grant's "guidelines for applicants" with me so that I can be sure the grant in question is a similar level of effort compared to the seed grant. Researching a grant topic takes considerable effort, I would ask that if you have not identified an alternate grant application by the end of the second week of class, that you accept the seed grant as your term paper format.
If you choose to shop around other grant/fellowship applications, these may be relevant resources:
https://www.uvm.edu/four/fellowships
https://www.pathwaystoscience.org/grad.aspx
https://www.pathwaystoscience.org/Undergrads.aspx
https://researchtraining.nih.gov/programs/fellowships/F31#
there is also a useful database on external funding opportunities compiled by UCLA with several ways to customize your search:
https://grad.ucla.edu/funding/#/

Final draft of the research proposal is due to me by 11:59 PM on Monday May 4th. The final draft is 30% of your final grade in the course (30 points).

30-minute presentation on your research proposal (10% of grade):
Oral communication of your work (or your proposed work) is also an integral component of scientific research; when you attend conferences, you need to sell your knowledge of your work with confidence and gusto. A key component of this class is to allow you the practice needed to become more comfortable in public speaking; this is rarely satisfied by a single presentation built into a standard class placed at the very end of the semester. I have intentionally built presenting on assigned exercises into the design of this course. Honing your presentation skills throughout the semester will give way to a final presentation that I hope you are eager to discuss and confident to defend to your peers. If there is interest, you will be allowed to practice your presentation before performing the formal, graded presentation.

Your graded (formal) presentation is 10% of your final grade in the course (10 points).

Grading schema:
This class will follow standard grading schema as defined by the University for undergraduate and graduate students:

A+: >98%	A: 93-97.9%	A-: 90-92.9%
B+: 88-89.9%	B: 83-87.9%	B-: 80-82.9%
C+: 78-79.9%	C: 73-77.9%	C-: 70-72.9%
D+: 68-69.9%	D: 63-67.9%	D-: 60-62.9%

F: <60%
Note *for graduate students: there is no D level grading; a final score less than 70% results in an F.*

Late assignments:

Late assignments will not be accepted unless it is within the solution agreed upon and related to extreme and unforeseen personal emergencies (see the note above regarding meetings with University Officials where necessary).

Course Evaluation:

All students are asked to complete an evaluation of the course at its conclusion. The evaluations will be anonymous and confidential, and the information gained, including constructive criticisms, will be used to improve the course.

Tips for Success:

Have you ever taken a course where the instructor allowed you to bring a "cheat sheet" to the exams? Typically, they would allow you to *write* as much of the class material as you could fit onto a notecard or even a full piece of paper. Their dirty little secret is that by writing out the concepts, you were actually learning the material. You likely performed well on the exams without even needing to glance at the micro-font you wrote onto the paper. This class takes a similar approach, without being so sneaky. This class is designed to make you a better reader and writer in your topic area via the exercises I ask you to perform at the end of each chapter and through your discussion with your peers.
Again, show up (*participate fully*), do the work (*try hard*), and you will succeed.

Student Learning Accommodations:

In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact SAS, the office of Disability Services on campus. SAS works with students and faculty in an interactive process to explore reasonable and appropriate accommodations, which are communicated to faculty in an accommodation letter. All students are strongly encouraged to meet with their faculty to discuss the accommodations they plan to use in each course. A student's accommodation letter lists those accommodations that will not be implemented until the student meets with their faculty to create a plan.
Contact SAS:
A170 Living/Learning Center;
802-656-7753;
access@uvm.edu
www.uvm.edu/access

Religious Holidays:

Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes. You will be permitted to make up work within a mutually agreed-upon time. https://www.uvm.edu/registrar/religious-holidays

Academic Integrity:

The policy addresses plagiarism, fabrication, collusion, and cheating.
https://www.uvm.edu/policies/student/acadintegrity.pdf

Grade Appeals:
If you would like to contest a grade, please follow the procedures outlined in this policy: https://www.uvm.edu/policies/student/gradeappeals.pdf

Grading:
For information on grading and GPA calculation, go to https://www.uvm.edu/registrar/grades

Code of Student Conduct:
http://www.uvm.edu/policies/student/studentcode.pdf

FERPA Rights Disclosure:
The purpose of this policy is to communicate the rights of students regarding access to, and privacy of their student educational records as provided for in the Family Educational Rights and Privacy Act (FERPA) of 1974.
http://catalogue.uvm.edu/undergraduate/academicinfo/ferparightsdisclosure/

Promoting Health & Safety:
The University of Vermont's number one priority is to support a healthy and safe community:

Center for Health and Wellbeing:
https://www.uvm.edu/health

Counseling & Psychiatry Services (CAPS)
Phone: (802) 656-3340

C.A.R.E.
If you are concerned about a UVM community member or are concerned about a specific event, we encourage you to contact the Dean of Students Office (802-656-3380). If you would like to remain anonymous, you can report your concerns online by visiting the Dean of Students website at https://www.uvm.edu/studentaffairs

Final Exam Policy:
The University final exam policy outlines expectations during final exams and explains timing and process of examination period. https://www.uvm.edu/registrar/final-exams

Alcohol and Cannabis Statement:
The Division of Student Affairs has offered the following statement on alcohol and cannabis use that faculty may choose to include, or modify for inclusion, in their syllabus or Blackboard site:

Statement on Alcohol and Cannabis in the Academic Environment

As a faculty member, I want you to get the most you can out of this course. You play a crucial role in your education and in your readiness to learn and fully engage with the course material. It is important to note that alcohol and cannabis have no place in an academic environment. They can seriously impair your ability to learn and retain information not only in the moment you may be using, but up to 48 hours or more afterwards. In addition, alcohol and cannabis can:

- Cause issues with attention, memory and concentration
- Negatively impact the quality of how information is processed and ultimately stored
- Affect sleep patterns, which interferes with long-term memory formation

It is my expectation that you will do everything you can to optimize your learning and to fully participate in this course.

Date	Topics/Activities	Readings/Preparation
T, 1-14	Course overview, syllabus	Skim USDA-NIFA Seed grant instructions Think about your research topic, the 4 articles you want to workshop through this course, and the short essay that will be due 1.21 (described at end of Ch.2)
Th, 1-16	Research proposal assignment overview Identify research topics **Christie Silkotch on researching topics through UVM library privileges**	Identify your research topic and 4 articles **Short article described in step 2 of exercise 2.2 due to me by noon on 1.21**
T, 1-21	Ch. 2 – Science Writing as Storytelling Present your findings from exercises from Schimel Chapter 2 (through step 2 of 2.2) Each student to present their answers to questions from exercise 2.1 and briefly describe their short article Step 3 in-class editing exercise	**Read Schimel: Preface through Chapter 2 before class** **Due today:** **1.** 4 articles from the primary literature that are from the topic of your research proposal **2.** Answers to step 1 from exercise 2.2 **3.** Short article described in step 2 of exercise 2.2
Th, 1-23	Ch. 3 - Sticky Stories Present on your observations from 3.1 for your 4 papers as well as edits you made to your article from exercise 3.2	**Read Chapter 3 before class** **Due today:** Documentation from exercise 3.1 and 3.2
T, 1-28	Ch. 4 – Story structure Present your findings for your 4 papers and your article for exercise 4.1 and 4.2	**Read Chapter 4 before class** **Due today:** Documentation from exercise 4.1 (part A) and 4.2
Th, 1-30	Ch. 5 – The Opening Present your findings from Exercise 5.1 (4 papers) and 5.2 (1 from your paper, 1 from your assigned peer)	**Read Chapter 5 before class** **Due today:** Documentation from exercise 5.1 and 5.2
T, 2-4	Ch. 6 – The Funnel: Connecting O and C Present your findings from Exercise 6.1 (4 papers) and 6.2 (1 from your paper, 1 from your assigned peer)	**Read Chapter 6 before class** **Due today:** Documentation from exercise 6.1 and 6.2

Date	Topics/Activities	Readings/Preparation
Th, 2-6	Ch. 7 – The Challenge Present your findings from Exercise 7.1 (4 papers) and 7.2 (your paper)	**Read Chapter 7 before class** **Due today:** Documentation from exercise 7.1 and 7.2
T, 2-11	Ch. 8 – Action Present your findings from Exercise 8.1 (4 papers) and 8.2 (your paper)	**Read Chapter 8 before class** **Due today:** Documentation from exercise 8.1 and 8.2
Th, 2-13	Ch. 9 – The Resolution Present your findings from Exercise 9.1 (4 papers) and 9.2 (your paper)	**Read Chapter 9 before class** **Due today:** Documentation from exercise 9.1 and 9.2
T, 2-18	Ch. 10 – Internal Structure Present your findings from Exercise 10.1 (4 papers) and 10.2 (your paper)	**Read Chapter 10 before class** **Due today:** Documentation from exercise 10.1 and 10.2
Th, 2-20	Ch. 11 – Paragraphs Present your findings from Exercise 11.1 (4 papers) and 11.2 (your paper)	**Read Chapter 11 before class** **Due today:** Documentation from exercise 11.1 and 11.2
T, 2-25	Ch. 12 – Sentences Present your findings from Exercise 12.1 (4 papers) and 12.2 (your paper)	**Read Chapter 12 before class** **Due today:** Documentation from exercise 12.1 and 12.2
Th, 2-27	Ch. 13 – Flow Present your findings from Exercise 13.1 (Select 2 of your 4 papers) and 13.2 (your paper)	**Read Chapter 13 before class** **Due today:** Documentation from exercise 13.1 and 13.2
T, 3-3 Recess		
Th, 3-5	Ch. 14 – Energizing Writing Present your findings from Exercise 14.1 (4 papers) and 14.2 (your paper)	**Read Chapter 14 before class** **Due today:** Documentation from exercise 14.1 and 14.2
T, 3-10 Recess		
Th, 3-12 Recess		

Date	Topics/Activities	Readings/Preparation
T, 3-17	Ch. 15 – Words Present your findings from Exercise 15.1 (2 paragraphs from each of your 4 papers) and 15.2 (your paper) **Exercise 16.1 partner edit assigned for 3.24**	**Read Chapter 15 before class** **Due today:** Documentation from exercise 15.1 and 15.2
Th, 3-19	Ch. 16 – Condensing Present your findings from Exercise 16.1 (your edits to both your paper and your assigned partner's) **Exercise 17.1 partner edit assigned for 3.26**	**Read Chapter 16 before class** **Due today:** Documentation from exercise 16.1
T, 3-24	Ch. 17 – Putting it All Together: Real Editing Present your findings from Exercise 17.1 (your edits to both your paper and your assigned partner's)	**Read Chapter 17 before class** **Due today:** Documentation from exercise 17.1
Th, 3-26	Ch. 18 – Dealing with Limitations Dr. Solverson will yield questions about the proposal assignment	**Read Chapter 18 before class** **continue to work on your term paper**
T, 3-31	Ch. 19 – Writing Global Science Dr. Solverson will yield questions about the proposal assignment	**Read Chapter 19 before class** **continue to work on your term paper**
Th, 4-2	Ch. 20 – Writing for the Public Present your findings from Exercise 20.1 and 20.2 **Term paper partner edit assigned for 4.9**	**Read Chapter 20 before class** **Due today:** **1. Term paper first draft** **2.** Message boxes from exercise 20.1 and 20.2
T, 4-7	Research Proposal workshop Present your edits to your peer's document **Term paper partner edit assigned for 4.14**	**Edit your peer's term paper** **Due today:** Documentation of your editing to your peer's document
Th, 4-9	Research Proposal workshop Present your edits to your peer's document	**Edit your peer's term paper** **Due today:** Documentation of your editing to your peer's document

Date	Topics/Activities	Readings/Preparation
T, 4-14	Research Proposal workshop Present your edits to your document	**Edit *your* term paper** **Due today:** Documentation of your editing to your document
Th, 4-16	Research Proposal WS/ Student Selected Journal Club/RP presentation practice	TBD based on class interest
T, 4-21	Research Proposal WS/ Student Selected Journal Club/RP presentation practice	TBD based on class interest
Th, 4-23	Research Proposal WS/ Student selected Journal Club/RP presentation practice	TBD based on class interest
T, 4-28	Formal Research Proposal Presentations	**Practice your presentation**
Th, 4-30	Formal Research Proposal Presentations	**Practice your presentation**
Monday, May 4th	**Final Draft Term Paper Due to Dr. Solverson at 11:59 PM**	