

CURRICULUM COMMITTEE REPORT

The Curriculum Committee met on April 9th, 2019 and recommends the following courses to the Graduate Board for approval at its April 25th, 2019 meeting.

New Courses:

FSN 580 Food Chemistry

AVS 555 Animal Nutrition

AVS 556 Animal Nutrition Laboratory

COS 565 Data Visualization

The following new courses were considered by the Curriculum Committee in March but were not reviewed by Graduate Board due to a meeting cancellation. These courses are now ready for approval.

New Courses:

CIE 559 Marine Turbulence

BUA 670 Managerial Marketing



boxed 65 4/2/19

NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORM FOR GRADUATE COURSES

Graduate course proposals, modifications, or eliminations must be submitted to the Graduate School no later than the 3rd of each month. Please refer to the Graduate School website for the Curriculum Committee meetings schedule. Electronic signatures and submission is required.

Please return the completed e-form with appropriate signatures and documentation to the Graduate School by saving the form to your desktop and sending as an attachment to graduate@maine.edu. Please include in the subject line 'Course Proposal' and the course designator and number.

GRADUATE PROGRAM/UNIT School of Food and Agriculture

COURSE DESIGNATOR FSN COURSE NUMBER 580 EFFECTIVE SEMESTER Fall 2019

COURSE TITLE Food Chemistry

REQUESTED ACTION

NEW COURSE (check all that apply, complete Section 1, and submit a complete syllabus):

- ☒ New Course
☐ New Course with Electronic Learning
☐ Experimental

MODIFICATION (Check all that apply and complete Section 2):

- | | | |
|--|--|--|
| <input type="checkbox"/> Designator Change | <input type="checkbox"/> Description Change | <input type="checkbox"/> Cross Listing (must be at least 400-level) ¹ |
| <input type="checkbox"/> Number Change | <input type="checkbox"/> Prerequisite Change | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Title Change | <input type="checkbox"/> Credit Change | |

ELIMINATION:

- ☐ Course Elimination

ENDORSEMENTS

Please sign using electronic signatures. If you do not already have a digital signature, please click within the correct box below and follow the on-screen instructions.

Leader, Initiating Department/Unit(s)

College(s) Curriculum Committee Chair(s) (if applicable)

College Dean(s)

Graduate School [sign and date]

1. Courses cross-listed below 400-level require the permission of the Graduate School.

SECTION 1 (FOR NEW COURSE PROPOSALS)

Proposed Catalog Description (include designator, number, title, prerequisites, credit hours):

Designator: FSN

Number: 580

Title: Food Chemistry

Cr. 3

Description:

Study of the composition, structure, and properties of foods and chemical changes occurring during processing and utilization. FSN 482 and 580 cannot both be taken for credit. Lec 3.

Course Typically Offered: Fall, Odd Years

Prerequisites: BMB 322 or CHY 252 or permission

Components (type of course/used by Student Records for MaineStreet) – Multiple selections are possible for courses with multiple non-graded components:

☐ Applied Music

☐ Clinical

☐ Field Experience/Internship

☐ Research

☐ Studio

☐ Laboratory

☒ Lecture/Seminar

☐ Recitation

☐ Independent Study

☐ Thesis

Text(s) planned for use:

Introductory Food Chemistry. John Brady. 2013.

Course Instructor (include name, position, teaching load):

Denise Skonberg, Associate Professor, 45% teaching

Reason for new course:

New graduate course to be cross listed with FSN 482. We would like to offer a 500-level food chemistry course for our graduate students, but do not have enough students to warrant a stand-alone course, thus the cross-listing with our senior level food chemistry class.

Does the course addition require additional department or institutional facilities, support and/or resources, e.g. new lab facilities, computer support and services, staffing (including graduate teaching assistants), or library subscriptions and resources?

☒ No. The department will not request additional resources for this course.

☐ Yes. Please list additional resources required and note how they will be funded or supported.

What other departments/programs are affected (e.g. course overlap, prerequisites)? Have affected departments/programs been consulted? Any concerns expressed? Please explain.

There are no similar courses on campus. No other programs should be affected.

How often will this course be offered? Will offering this course result in overload salary payments, either through the college or CED, either to the instructor of this course or to anyone else as a result of rearranging teaching assignments?

Fall, even years. This course is part of Dr. Skonberg's regular teaching load, and there will be no overload payments.

**Food Chemistry
FSN 482 and FSN 580
Fall 2019
MWF 10:00-10:50
203 Hitchner**

Study of the composition, structure, and properties of foods and chemical changes occurring during processing and utilization. FSN 482 and 580 cannot both be taken for credit. Lec 3. Cr. 3

Instructor: Dr. Denise Skonberg
Associate Professor of Food Science
104 Hitchner
581-1639
Denise.Skonberg@maine.edu

Office hours: Wednesdays 11:00 – 12:30 and by appointment

This course introduces food chemistry, focusing on the composition, structures, and properties of the major components in foods. During the semester we will focus on chemical changes that occur during processing and storage that affect the color, flavor, texture, and nutritional characteristics of foods.

Course objectives:

Students completing FSN 482 or FSN 580 will be able to:

1. Describe the composition, structure, and properties of water, lipids, proteins, carbohydrates, enzymes, and pigments in foods.
2. Explain the chemistry underlying the reactions of food components and how to control these reactions.
3. Review technical papers from the Food Chemistry scientific literature and summarize them in non-technical language for a general audience.
4. Demonstrate understanding of the role of selected ingredients in processed foods.

Additionally, students completing FSN 580 will be able to:

1. Find, review, and evaluate appropriate original research papers required to answer a specific food chemistry question.

Text:

Introductory Food Chemistry. 2013. John Brady, Ed. Cornell University Press.

Web component:

Each student is required to access the Blackboard site for this course to obtain supplemental required materials. Lecture slides will also be posted online, typically prior to class.

Grading:

<u>FSN 482</u>	Exam 1	100 points
	Exam 2	100 points
	Exam 3	100 points
	Exam 4	100 points
	<u>Assignments</u>	<u>100 points</u>
	Total	500 points

<u>FSN 580</u>	Exam 1	100 points
	Exam 2	100 points
	Exam 3	100 points
	Exam 4	100 points
	<u>Assignments</u>	<u>200 points</u>
	Total	600 points

<u>Grade</u>	<u>%</u>
A	> 92
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D	60-69

Examinations:

Exams will consist of short answer, multiple-choice, and essay questions. If illness or another emergency situation interferes with your ability to take an exam at the assigned time, let me know beforehand so that alternative arrangements can be made, and plan on providing verification. Make-up exams must be taken within one week of the scheduled exam and no examinations will be returned until all students have taken the exam.

Assignments:

Assignments are due in class on the scheduled day. I do not accept assignments sent to me via e-mail. Late assignments receive a grade penalty of 5% per day. If illness or an emergency situation causes you to miss a deadline, please let me know as soon as possible, so that we may arrange an alternate due date.

Assignment #1 – Natural and Synthetic Antioxidants in Processed Foods

40 points

Go to the store and select two processed foods that contain lipids. One product should contain at least one natural antioxidant specifically added to protect the lipid in the food, and the other should contain at least one synthetic antioxidant in its ingredient list. The two food products should be from different food categories (i.e. baked foods, beverages, dry mixes, etc.), not just variations in the same kind of food. The assignment should be double-spaced, and will be evaluated based on completeness, accuracy, spelling, and grammar.

For each product:

- a) provide the name of the product and manufacturer
- b) list the ingredients
- c) indicate the added antioxidants and whether they are natural or synthetic
- d) **describe** in about one paragraph the probable functional role of the antioxidant in the food product (ie. which ingredients in the product are most susceptible to lipid oxidation and why; how does the antioxidant prevent oxidation)

Assignment #2 – Nontechnical Short Paper

60 points

The purpose of this assignment is to write a short paper on a food chemistry-related topic that may be of interest to the consumer. **Although the paper must be based on scientific literature, it should be written in (“translated into”) non-technical language that someone without any scientific background can understand.**

The paper should be 700 - 800 words (not including your reference list). Students should cite at least 3 peer-reviewed, original research papers (not review papers), all of which will be discussed in your paper. Other technical references also may be included. Examples of peer-reviewed research journals with appropriate content include Journal of Food Science, Food Chemistry, Journal of Dairy Science, and Journal of Agricultural and Food Chemistry, among many others. If you have questions about the appropriateness of potential references, please ask me. Your in-text citations and reference list should follow the **Journal of Food Science** format. The rubric used for grading will be posted on Blackboard.

NOTE: This assignment is based on the Institute of Food Technologists’ annual writing competition. Each year, the top three finalists receive monetary awards (\$1,000, \$750, \$500).

Assignment #3 – Research Paper (Graduate Students)

100 points

Graduate students will be assigned a topic for a food chemistry investigatory project. The purpose of this assignment is to answer a specific food chemistry question in detail, based on current reports in the peer-reviewed literature. The research paper should be a **review of three peer-reviewed** original research reports directly related to the assigned question. In the process of answering the question, students will thoroughly review the papers, which will provide support for their conclusion. Papers should be 4-5 pages (double spaced; not including references) in length, and based on research papers **published in the last 8 years**. Guidelines for completing the research paper and a rubric for evaluating the paper will be posted on Blackboard and discussed in class.

Proposed schedule:

Date	Days	Topic	Reading Assignment
8/28	M	Course introduction	1-9
8/30-9/1	WF	Properties of water and ice	59-78, 106-112, PF1
9/4	M	Labor Day	
9/6-9/8	WF	Water activity	95-105
9/11-9/13	MW	Lipids: basic concepts	401-432
9/15-9/20	FMW	Processing fats & oils	432-436, 466-455, PF2, PF3
9/22	F	Emulsifiers	118-123, 137-142, 149-151 PF4
9/25	M	Exam 1 (through fats & oils)	
9/27-9/29	WF	Lipid oxidation	436-446, PF5
10/2	M	Fat replacers	PF6
10/4-10/6	WF	Amino acids; protein structure	277-306
10/9	M	Fall Break	
10/11-10/13	WF	Protein properties & nutritional quality	329-337 Assignment 1 due 10/13
10/16	M	Protein denaturation	306-311
10/18	W	Protein functional properties	
10/20	F	Exam 2 (through denaturation)	
10/23-10/25	MW	Protein functional properties	313-316, 323-327, 337-345 PF7
10/27-10/30	FM	Carbohydrate structure and reactions	155-200, 218-224, PF8
11/1-11/3	WF	Non-enzymatic browning	205-218, PF9 Assignment 2 due 11/1
11/6-11/8	MW	Non-starch polysaccharides	225-227, 242-275, PF10
11/10	F	Veteran's Day	
11/13	M	Starch	227-242
11/15	W	Exam 3 (through non-starch polysaccharides)	
11/17-11/20	FM	Starch	200-202, PF11
11/22-11/24	WF	Thanksgiving Break	
11/27-12/1	MWF	Enzymes	375-400, PF12 Assignment 3 due 12/1
12/4-12/8	MWF	Pigments & color	507-560, PF13
12/11	M	Exam 4 (12:15 – 2:15)	

Course schedule disclaimer (disruption clause): In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

Academic honesty: Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or

reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.

Students' accessibility: If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, 581.2319, as early as possible in the term. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with me (Denise Skonberg) privately as soon as possible.

Observance of religious holidays/events: The University of Maine recognizes that when students are observing significant religious holidays, some may be unable to attend classes or labs, study, take tests, or work on other assignments. If they provide adequate notice (at least one week and longer if at all possible), these students are allowed to make up course requirements as long as this effort does not create an unreasonable burden upon the instructor, department or University. At the discretion of the instructor, such coursework could be due before or after the examination or assignment. No adverse or prejudicial effects shall result to a student's grade for the examination, study, or course requirement on the day of religious observance. The student shall not be marked absent from the class due to observing a significant religious holiday. In the case of an internship or clinical, students should refer to the applicable policy in place by the employer or site

Sexual discrimination reporting: The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of **sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination** involving members of the campus, **your teacher is required to report** this information to the campus Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity. **If you want to talk in confidence** to someone about an experience of sexual discrimination, please contact these resources:

For *confidential resources on campus*: **Counseling Center: 207.581.1392 or Cutler Health Center: at 207.581.4000.**

For *confidential resources off campus*: **Rape Response Services: 1.800.310.0000 or Spruce Run: 1.800.863.9909.**

Other resources: The resources listed below can offer support but may have to report the incident to others who can help: For *support services on campus*: **Office of Sexual Assault & Violence Prevention: 207.581.1406, Office of Community Standards: 207.581.1409, University of Maine Police: 207.581.4040 or 911.** Or see the OSAVP website for a complete list of services at <http://www.umaine.edu/osavp/>



**NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORM FOR GRADUATE COURSES**

Graduate course proposals, modifications, or eliminations must be submitted to the Graduate School no later than the 3rd of each month. Please refer to the Graduate School website for the Curriculum Committee meetings schedule. Electronic signatures and submission is required.

Please return the completed e-form with appropriate signatures and documentation to the Graduate School by saving the form to your desktop and sending as an attachment to graduate@maine.edu. Please include in the subject line 'Course Proposal' and the course designator and number.

GRADUATE PROGRAM/UNIT Animal and Veterinary Sciences

COURSE DESIGNATOR AVS COURSE NUMBER 555 EFFECTIVE SEMESTER Fall 2019

COURSE TITLE Animal Nutrition

REQUESTED ACTION

NEW COURSE (check all that apply, complete Section 1, and submit a complete syllabus):

- ☒ New Course
☐ New Course with Electronic Learning
☐ Experimental

MODIFICATION (Check all that apply and complete Section 2):

- ☐ Designator Change ☐ Description Change ☐ Cross Listing (must be at least 400-level)¹
☐ Number Change ☐ Prerequisite Change ☐ Other (specify) _____
☐ Title Change ☐ Credit Change

ELIMINATION:

- ☐ Course Elimination

ENDORSEMENTS

Please sign using electronic signatures. If you do not already have a digital signature, please click within the correct box below and follow the on-screen instructions.

Leader, Initiating Department/Unit(s)

College(s) Curriculum Committee Chair(s) (if applicable)

College Dean(s)

Graduate School (sign and date)

1. Courses cross-listed below 400-level require the permission of the Graduate School.

SECTION 1 (FOR NEW COURSE PROPOSALS)

Proposed Catalog Description (include designator, number, title, prerequisites, credit hours):

Animal Nutrition Lab (AVS 555, 3 credits). Prerequisite: Graduate standing in animal science or food science and human nutrition or permission. An increased efficiency of nutrient use is not only imperative for achieving profitability in the currently globalized livestock markets, but also for the sustainable use of natural resources and climate change mitigation. Considering that around 70% of the costs of raising animals is due to feeding and that global demand for animal products is increasing, understanding the basic foundations of animal nutrition is essential for professionals that work with livestock, poultry, companion animals, and wildlife. This course will cover the biochemistry of nutrient use, gastrointestinal physiology and metabolism, feedstuff nutritional analysis, mathematical modelling of nutrient requirements, and the life-cycle of feeding animals. AVS 455 and 555 cannot both be taken for credit.

Components (type of course/used by Student Records for MaineStreet) – *Multiple selections are possible for courses with multiple non-graded components:*

- | | | | | |
|--|---|--|--|---------------------------------|
| <input type="checkbox"/> Applied Music | <input type="checkbox"/> Clinical | <input type="checkbox"/> Field Experience/Internship | <input type="checkbox"/> Research | <input type="checkbox"/> Studio |
| <input type="checkbox"/> Laboratory | <input checked="" type="checkbox"/> Lecture/Seminar | <input type="checkbox"/> Recitation | <input type="checkbox"/> Independent Study | <input type="checkbox"/> Thesis |

Text(s) planned for use:

Course Instructor (include name, position, teaching load):

Dr. Juan Romero, Assistant Professor, 50% teaching

Reason for new course:

(See description) There is a need for a graduate level course on Animal Nutrition for Animal Science and Aquaculture grad students.

Does the course addition require additional department or institutional facilities, support and/or resources, e.g. new lab facilities, computer support and services, staffing (including graduate teaching assistants), or library subscriptions and resources?

- ☒ No. The department will not request additional resources for this course.
- ☐ Yes. Please list additional resources required and note how they will be funded or supported.

What other departments/programs are affected (e.g. course overlap, prerequisites)? Have affected departments/programs been consulted? Any concerns expressed? Please explain.

No overlap/concerns.

How often will this course be offered? Will offering this course result in overload salary payments, either through the college or CED, either to the instructor of this course or to anyone else as a result of rearranging teaching assignments?

Every fall. The course will be part of the instructor's regular teaching load.



Course Syllabus AVS 455/555

Animal Nutrition

2019 | 3 Credit hours

Animal and Veterinary Sciences Program - SFA | University of Maine

Instructor:

Dr. Juan Romero

Assistant Professor | Dairy Cattle Nutrition

Rogers Hall - Room 203

Tel: (207) 581-2925

Email: juan.romero@maine.edu

<https://umaine.edu/foodandagriculture/romero2/>

Prerequisites:

AVS 455: Junior Standing, CHY 122/124, and BIO 200, BIO 208 or SMS 201

AVS 555: Graduate standing in animal science or food science and human nutrition or permission

Course Schedule: Lectures are held 3 times per week: (TBD) in Rogers Hall 206.

Course Description: AVS 455/555 – Animal Nutrition – An increased efficiency of nutrient use is not only imperative for achieving profitability in the currently globalized livestock markets, but also for the sustainable use of natural resources and climate change mitigation. Considering that around 70% of the costs of raising animals is due to feeding and that global demand for animal products is increasing, understanding the basic foundations of animal nutrition is essential for professionals that work with livestock, poultry, companion animals, and wildlife. This course will cover the biochemistry of nutrient use, gastrointestinal physiology and metabolism, feedstuff nutritional analysis, mathematical modelling of nutrient requirements, and the life-cycle of feeding animals.

URL for Syllabus/Course: In Blackboard - <https://bb.courses.maine.edu>

Course Goals: The course will cover the foundations behind:

- Nutritional Nomenclature
- Comparative Gastrointestinal Tract Anatomy and Physiology
- Nutrient Biochemistry and Metabolism
- Feedstuff Evaluation Techniques
- Regulation of Nutrient Partitioning
- Regulation of Voluntary Intake
- Basic Feedstuffs and Additives Classification and Properties
- Gut and Feedstuff Microbiology

- Nutritional Requirements for Maintenance, Growth, and Production
- Nutritional Metabolic Disorders

Learning Outcomes: Upon completion of the course, students will be able to:

- **Use** the proper nomenclature relevant to animal nutrition for adequate communication and understanding with animal industry and health professionals, farmers, wildlife caretakers, and government agencies.
- **Discern** the impact of the relative anatomical and physiological differences across animal species on their ability to differentially use nutrients for maintenance, growth, and production and their tolerance to anti-nutritional compounds present in feedstuffs.
- **Recognize** the impact of the gut microbiome on animal performance and health and the factors affecting it, including the feed microbiome.
- **Interpret and discuss** feed analysis reports to assess their safety and relative nutrient contribution to animal diets.
- **Develop the basic skills to assess** animal diets potential to meet requirements for maintenance, growth, and production and to keep animals healthy.
- **Appraise** the impact of animal nutrition on waste and nutrient cycling.
- **Assess** the influence of dietary components on gene expression and genome protection.
- **Recognize** the principles behind animal feed storage and processing.

Course structure and meetings: Thirty-nine sessions covering aspects of animal nutrition nomenclature, comparative gastrointestinal anatomy and physiology, nutrient biochemistry and metabolism, gut microbiome, feedstuff evaluation, nutritional requirements, and nutritional disorders. There will be biweekly evaluations, a midterm and final exams.

Office Hours: Dr. Romero will be available by appointment on (TBD) at 203 Rogers Hall.

Course Materials:

Software:

Microsoft Office: All students must have access and be able to use MS Office. Check <https://umaine.edu/it/software/office/> for access to the full MS Office package on up to 5 personally owned devices. Contact the University Tech Support Center at (207) 581-2506, 800-696-4357, or techsupport@maine.edu.

Top Hat: All students must have access and be able to use Top Hat (www.tophat.com) classroom response system in class (for class participation and attendance grading) by (TBD). You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system. An email invitation will be sent to you by email, but if you don't receive this email, you can register by

simply visiting our course website: <https://app.tophat.com/e/TBD>. Note: Our course Join Code is TBD. Top Hat will require a paid subscription, I only require you to get the single semester option, longer options will be up to the student. A full breakdown of all subscription options available can be found here: www.tophat.com/pricing. Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling 1-888-663-5491.

Blackboard: All students must have access and be able to use Blackboard (<https://online.umaine.edu/technologies/blackboard/>). Blackboard Learn is a learning management system designed with students in mind. It gives you the tools you need to collaborate with your peers, stay informed of upcoming due dates, submit assignments, view your grades, and more. Questions regarding Blackboard course materials (files, spreadsheets, etc.) should be directed to the instructor. If you suspect hardware/software/Blackboard issues contact: Technology Help Center – Room 17 Shibles Hall – 207-581-2506.

Devices:

Any electronic device that can operate Microsoft Office, Top Hat, and Blackboard. Laptops are available for 4-hour loan at Fogler Library (<http://www.library.umaine.edu/mrc/policy.htm#laptops>).

Textbooks:

No textbook is required for this class. Optional textbooks:

Suggested: Pond, W.G., D.C. Church, K.R. Pond, and P.A. Schoknecht. Basic Animal Nutrition and Feeding. 2005. 5th edition. Wiley. Hoboken, NJ, USA.

Others:

Wu, G.Y. Principles of Animal Nutrition. 2018. 1st edition. CRC Press. Boca Raton, FL, USA.

McDonald, P., R.A. Edwards, J.F.D. Greenhalgh, C.A. Morgan, L.A. Sinclair, and R.G. Wilkinson. 2011. 7th edition. Pearson Education Ltd. Harlow, England.

Grading criteria:

The final grade for the course will be determined based on scores from each of the course components and will be weighted as follows:

AVS 455:

- Mid-term Exam – 25%
- Final Exam – 25%
- Quizzes – 40% (4 in total; 10% for each quiz)
- Participation – 10% (every class, only Top Hat questions with allocated points, lowest 10 questions will be waived at the end of the semester)

AVS 555:

- Mid-term Exam – 25%
- Final Exam – 25%
- Quizzes – 34% (4 in total; 8.5% for each quiz)
- Participation – 8% (every class, only Top Hat questions with allocated points, lowest 10 questions will be waived at the end of the semester)
- Review paper on a topic covered in class – 8% (individual)
 - Due TBD

This course uses the following letter grading:

A = 93 – 100	B- = 80 – 82	D+ = 67 – 69
A- = 90 – 92	C+ = 77 – 79	D = 63 – 66
B+ = 87 – 89	C = 73 -76	D- = 60 – 62
B = 83 – 86	C- = 70 – 72	F = below 60

Grades will not be rounded in this course.

Tentative Class Schedule:

Session	Topic	Quizzes
1	Animal nutrition nomenclature	
2	Nutrient classification and evaluation techniques Part I (nutritional composition)	
3	Nutrient classification and evaluation techniques Part II (nutritional composition)	
4	Comparative gastrointestinal tract anatomy and physiology Part I	
5	Comparative gastrointestinal tract anatomy and physiology Part II	
6	Comparative gastrointestinal tract anatomy and physiology Part III	
7	In vivo and in situ methods used to evaluate feedstuffs	
8	Water	Quiz 1
9	Carbohydrate biochemistry and metabolism Part I	
10	Carbohydrate biochemistry and metabolism Part II	
11	Lipid biochemistry and metabolism Part I	
12	Lipid biochemistry and metabolism Part II	
13	Protein and amino acid biochemistry and metabolism Part I	
14	Protein and amino acid biochemistry and metabolism Part I	
15	Energy Metabolism Part I	
16	Energy Metabolism Part II	Quiz 2
17	Macromineral elements metabolism Part I	
	No Session (Fall Break)	

18	Macromineral elements metabolism Part II	
19	Micromineral elements metabolism Part I	
20	Micromineral elements metabolism Part II	
	Middle-term Exam	
21	Fat-soluble vitamins Part I	
22	Fat-soluble vitamins Part II	
23	Water-soluble vitamins Part I	
24	Water-soluble vitamins Part II	
25	Regulation of nutrient partitioning	
26	Regulation of voluntary intake	
27	Feeding standards and productivity	
	No Session (Veteran's Day)	
28	Feedstuff and additive classification	Quiz 3
29	Feed preparation and processing	
30	Gut and feedstuff microbiology	
31	Quantitative nutrition: Requirements for maintenance, growth, and production Part I	
32	Quantitative nutrition: Requirements for maintenance, growth, and production Part II	
33	Nutrition and the environment	
	No Session (Thanksgiving break)	
	No Session (Thanksgiving break)	
34	Nutrigenomics	
35	Dairy cattle nutrition	Quiz 4
36	Sheep and goat nutrition	
37	Horse nutrition	
38	Beef cattle nutrition	
39	Dog nutrition	

*Quizzes will be administered the last 10 min of class.

Classroom civility: Any successful learning experience requires mutual respect on behalf of the student and the instructor. The instructor, as well as the fellow students, should not be subjected to any student's behavior that is in any way disruptive, rude, or challenging to the instructor's authority in the classroom. A student should not feel intimidated or demeaned by his/her instructor and students must remember that the instructor has primary responsibility for

control over classroom behavior and maintenance of academic integrity. The instructor can order the temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct violating the general rules and regulations of the institution.

Make-up Exams and Attendance: Students are expected to take exams on the day and time scheduled unless *previous* alternate arrangements have been made with the professor. Only official documentation will be accepted (e.g. doctor's note).

Extended Disruption of Classroom Activities: In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

Academic Honesty Statement: Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.

Students Accessibility Statement: If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, 581.2319, as early as possible in the term. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with me (Dr. Romero) privately as soon as possible.

Sexual Discrimination Reporting: The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination involving members of the campus, your teacher is required to report this information to the campus Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity.

If you want to talk in confidence to someone about an experience of sexual discrimination, please contact these resources:

For confidential resources on campus: Counseling Center: 207-581-1392 or Cutler Health Center: at 207-581-4000.

For confidential resources off campus: Rape Response Services: 1-00-310-0000 or Spruce Run: 1-800-863-9909.

Other resources: The resources listed below can offer support but may have to report the incident to others who can help:

For support services on campus: Office of Sexual Assault & Violence Prevention: 207-581-1406, Office of Community Standards: 207-581-1409, University of Maine Police: 207-581-4040 or 911. Or see the OSAVP website for a complete list of services at <http://www.umaine.edu/osavp/>



NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORM FOR GRADUATE COURSES

Graduate course proposals, modifications, or eliminations must be submitted to the Graduate School no later than the 3rd of each month. Please refer to the Graduate School website for the Curriculum Committee meetings schedule. Electronic signatures and submission is required.

Please return the completed e-form with appropriate signatures and documentation to the Graduate School by saving the form to your desktop and sending as an attachment to graduate@maine.edu. Please include in the subject line 'Course Proposal' and the course designator and number.

GRADUATE PROGRAM/UNIT Animal and Veterinary Sciences

COURSE DESIGNATOR AVS COURSE NUMBER 556 EFFECTIVE SEMESTER Fall 2020

COURSE TITLE Animal Nutrition Laboratory

REQUESTED ACTION

NEW COURSE (check all that apply, complete Section 1, and submit a complete syllabus):

- ☒ New Course
☐ New Course with Electronic Learning
☐ Experimental

MODIFICATION (Check all that apply and complete Section 2):

- ☐ Designator Change ☐ Description Change ☐ Cross Listing (must be at least 400-level)¹
☐ Number Change ☐ Prerequisite Change ☐ Other (specify) _____
☐ Title Change ☐ Credit Change

ELIMINATION:

- ☐ Course Elimination

ENDORSEMENTS

Please sign using electronic signatures. If you do not already have a digital signature, please click within the correct box below and follow the on-screen instructions.

Leader, Initiating Department/Unit(s)

College(s) Curriculum Committee Chair(s) (if applicable)

College Dean(s)

Graduate School [sign and date]

1. Courses cross-listed below 400-level require the permission of the Graduate School.

SECTION 1 (FOR NEW COURSE PROPOSALS)

Proposed Catalog Description (include designator, number, title, prerequisites, credit hours):

Animal Nutrition Lab (AVS 556, 1 credit). Prerequisite: Graduate standing in animal science or food science and human nutrition or permission. A solid background in applied animal nutrition is key for competitiveness within the animal industry considering that most of the costs of raising an animal comes from feeding. In this course students will have the opportunity to experience how to sample and process feeds, measure key nutrients, measure feed utilization using animals, simulate digestion processes in the lab, and assess the safety and economic viability of conserved feeds. Students may not receive credit for both AVS 456 and 556.

Components (type of course/used by Student Records for MaineStreet) – Multiple selections are possible for courses with multiple non-graded components:

- | | | | | |
|--|--|--|--|---------------------------------|
| <input type="checkbox"/> Applied Music | <input type="checkbox"/> Clinical | <input type="checkbox"/> Field Experience/Internship | <input type="checkbox"/> Research | <input type="checkbox"/> Studio |
| <input checked="" type="checkbox"/> Laboratory | <input type="checkbox"/> Lecture/Seminar | <input type="checkbox"/> Recitation | <input type="checkbox"/> Independent Study | <input type="checkbox"/> Thesis |

Text(s) planned for use:

Course Instructor (include name, position, teaching load):

Dr. Juan Romero, Assistant Professor, 50% teaching

Reason for new course:

(See description) There is a need for a graduate level course on applied Animal Nutrition techniques for Animal Science and Aquaculture grad students.

Does the course addition require additional department or institutional facilities, support and/or resources, e.g. new lab facilities, computer support and services, staffing (including graduate teaching assistants), or library subscriptions and resources?

- ☒ No. The department will not request additional resources for this course.
- ☐ Yes. Please list additional resources required and note how they will be funded or supported.

What other departments/programs are affected (e.g. course overlap, prerequisites)? Have affected departments/programs been consulted? Any concerns expressed? Please explain.

No overlap/concerns.

How often will this course be offered? Will offering this course result in overload salary payments, either through the college or CED, either to the instructor of this course or to anyone else as a result of rearranging teaching assignments?

Every fall. The course will be part of the instructor's regular teaching load.



Fall

Course Syllabus AVS 456/556 Animal Nutrition Lab

2020 | 1 Credit hour

Animal and Veterinary Sciences Program - SFA | University of Maine

Instructor:

Dr. Juan Romero

Assistant Professor | Dairy Cattle Nutrition

Rogers Hall - Room 203

Tel: (207) 581-2925

Email: juan.romero@maine.edu

<https://umaine.edu/foodandagriculture/romero2/>

Prerequisites: AVS 456: AVS 455 is a pre or co-requisite.
AVS 556: AVS 555 is a pre or co-requisite.

Course Schedule: Labs are held once a week for 2 h: (TBD) in Rogers Hall Room 2.

Course Description: AVS 456/556 – Animal Nutrition Lab – A solid background in applied animal nutrition is key for competitiveness within the animal industry considering that most of the costs of raising an animal comes from feeding. In this course students will have the opportunity to experience how to sample and process feeds, measure key nutrients, measure feed utilization using animals, simulate digestion processes in the lab, and assess the safety and economic viability of conserved feeds. Students may not receive credit for both AVS 456 and 556.

URL for Syllabus/Course: In Blackboard - <https://bb.courses.maine.edu>

Course Goals: The course will cover the foundations behind:

- Safety in a lab environment
- Feed sampling and processing
- Growth/lactation trials
- Nutrient analysis
- In vitro digestibility
- In situ digestibility
- Feed microbiology techniques
- Feed additive selling strategies

Learning Outcomes: Upon completion of the course, students will be able to:

- **Operate** safely lab and field equipment related to animal nutrition

- **Sample** feeds following national standards and professional equipment
- **Conduct** basic growth/lactation trials
- **Determine** all major nutritional fractions including dry matter (DM), organic matter (OM), neutral detergent fiber (NDF), crude protein (CP), sugars, and fermentation products
- **Determine** the digestibility of feeds using in vitro techniques
- **Determine** the kinetics of feed degradation using ruminal in situ techniques
- **Determine** yeast, mold, and lactic acid bacteria counts in feeds
- **Advertise** feed additives by the animal industry

Course structure and meetings: Twelve sessions covering aspects of safety in the lab, feed sampling and processing, nutritional composition determination, growth/lactation trials, in vitro and in situ digestibility determination, feed microbiology, and feed additive advertisement. There will be six reports, a midterm and final exams, and a final presentation.

Office Hours: Dr. Romero will be available by appointment on (TBD) at 203 Rogers Hall.

Course Materials:

Software:

Microsoft Office: All students must have access and be able to use MS Office. Check <https://umaine.edu/it/software/office/> for access to the full MS Office package on up to 5 personally owned devices. Contact the University Tech Support Center at (207) 581-2506, 800-696-4357, or techsupport@maine.edu.

Blackboard: All students must have access and be able to use Blackboard (<https://online.umaine.edu/technologies/blackboard/>). Blackboard Learn is a learning management system designed with students in mind. It gives you the tools you need to collaborate with your peers, stay informed of upcoming due dates, submit assignments, view your grades, and more. Questions regarding Blackboard course materials (files, spreadsheets, etc.) should be directed to the instructor. If you suspect hardware/software/Blackboard issues contact: Technology Help Center – Room 17 Shibles Hall – 207-581-2506.

Devices:

Any electronic device that can operate Microsoft Office, and Blackboard. Laptops are available for 4-hour loan at Fogler Library (<http://www.library.umaine.edu/mrc/policy.htm#laptops>).

Textbooks:

No textbook is required for this class. Optional textbooks:

Suggested: Pond, W.G., D.C. Church, K.R. Pond, and P.A. Schoknecht. Basic Animal Nutrition and Feeding. 2005. 5th edition. Wiley. Hoboken, NJ, USA.

Grading criteria:

The final grade for the course will be determined based on scores from each of the course components and will be weighted as follows:

AVS 456:

- Reports – 50% (8.3% per report; 6 in total)
- Midterm exam – 16%
- Final exam – 16%
- Group presentation – 14%
 - Selling a commercial feed additive of your choice (20 min)
- Annual Basic Safety and Farm Safety Training Certificates and Farm Safety Training at Witter– 4%, must score at least 80 points in both tests (Due TBD)

AVS 556:

- Reports – 46% (7.7% per report; 6 in total)
- Midterm exam – 16%
- Final exam – 16%
- Individual presentation – 10%
 - Selling a commercial feed additive (20 min)
- Annual Basic Safety and Farm Safety Training Certificates and Farm Safety Training at Witter– 2%, must score at least 80 points in both tests (Due TBD)
- Review paper on a commercial feed additive – 10%

This course uses the following letter grading:

A = 93 – 100	B- = 80 – 82	D+ = 67 – 69
A- = 90 – 92	C+ = 77 – 79	D = 63 – 66
B+ = 87 – 89	C = 73 -76	D- = 60 – 62
B = 83 – 86	C- = 70 – 72	F = below 60

Grades will not be rounded in this course.

Tentative Lab Schedule:

Lab	Activity
1	Training and safety
2	Feed sampling and processing
3	Growth trial I
4	Determination of dry matter (DM), organic matter (OM), and neutral detergent fiber
5	Determination of crude protein
6	Determination of ruminal in vitro digestibility I
7	Determination of ruminal in vitro digestibility II
	Middle-term Exam
8	Determination of feed microbial counts
9	Growth trial II
10	Determination of in situ ruminal digestibility I

11	Determination of in situ ruminal digestibility II
12	Determination of sugars and fermentation products
	Final Presentation - Selling a feed additive
TBD	Final Exam

*Quizzes will be administered the last 10 min of class.

Classroom civility: Any successful learning experience requires mutual respect on behalf of the student and the instructor. The instructor, as well as the fellow students, should not be subjected to any student's behavior that is in any way disruptive, rude, or challenging to the instructor's authority in the classroom. A student should not feel intimidated or demeaned by his/her instructor and students must remember that the instructor has primary responsibility for control over classroom behavior and maintenance of academic integrity. The instructor can order the temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct violating the general rules and regulations of the institution.

Make-up Exams and Attendance: Students are expected to take exams on the day and time scheduled unless *previous* alternate arrangements have been made with the professor. Only official documentation will be accepted (e.g. doctor's note).

Extended Disruption of Classroom Activities: In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

Academic Honesty Statement: Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.

Students Accessibility Statement: If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, 581.2319, as early as possible in the term. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with me (Dr. Romero) privately as soon as possible.

Sexual Discrimination Reporting: The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination involving members

of the campus, your teacher is required to report this information to the campus Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity.

If you want to talk in confidence to someone about an experience of sexual discrimination, please contact these resources:

For confidential resources on campus: Counseling Center: 207-581-1392 or Cutler Health Center: at 207-581-4000.

For confidential resources off campus: Rape Response Services: 1-00-310-0000 or Spruce Run: 1-800-863-9909.

Other resources: The resources listed below can offer support but may have to report the incident to others who can help:

For support services on campus: Office of Sexual Assault & Violence Prevention: 207-581-1406, Office of Community

Standards: 207-581-1409, University of Maine Police: 207-581-4040 or 911. Or see the OSAVP website for a complete list of services at <http://www.umaine.edu/osavp/>



NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORM FOR GRADUATE COURSES

Graduate course proposals, modifications, or eliminations must be submitted to the Graduate School no later than the 3rd of each month. Please refer to the Graduate School website for the Curriculum Committee meetings schedule. Electronic signatures and submission is required.

Please return the completed e-form with appropriate signatures and documentation to the Graduate School by saving the form to your desktop and sending as an attachment to graduate@maine.edu. Please include in the subject line 'Course Proposal' and the course designator and number.

GRADUATE PROGRAM/UNIT SCIS

COURSE DESIGNATOR COS COURSE NUMBER 565 EFFECTIVE SEMESTER Fall 2019

COURSE TITLE Data Visualization

REQUESTED ACTION

NEW COURSE (check all that apply, complete Section 1, and submit a complete syllabus):

- ☒ New Course
☐ New Course with Electronic Learning
☐ Experimental

MODIFICATION (Check all that apply and complete Section 2):

- ☐ Designator Change ☐ Description Change ☐ Cross Listing (must be at least 400-level)¹
☐ Number Change ☐ Prerequisite Change ☐ Other (specify) _____
☐ Title Change ☐ Credit Change

ELIMINATION:

- ☐ Course Elimination

ENDORSEMENTS

Please sign using electronic signatures. If you do not already have a digital signature, please click within the correct box below and follow the on-screen instructions.

Leader, Initiating Department/Unit(s)

Penny Rheingans

Digitally signed by Penny Rheingans
DN: cn=Penny Rheingans, o=, ou, email=penny.rheingans@maine.edu, c=US
Date: 2019.03.03 16:38:43 -05'00'

College(s) Curriculum Committee Chair(s) [if applicable]

James W. Wankoh James W. Wankoh 3/12/19

College Dean(s)

Michael A Robbins Michael Robbins 3/12/19

Graduate School [sign and date]

1. Courses cross-listed below 400-level require the permission of the Graduate School.

SECTION 1 (FOR NEW COURSE PROPOSALS)

Proposed Catalog Description (include designator, number, title, prerequisites, credit hours):

COS 565: Data Visualization

Prerequisite: COS 226 or permission of instructor; 3 credits

Introduction to the goals, techniques, implementation, and evaluation of visual representations for large quantities of data. Students work with a team to produce a novel visualization solution for a client with application domain data and goals. COS 465 and COS 565 cannot both be taken for credit.

Components (type of course/used by Student Records for MaineStreet) – *Multiple selections are possible for courses with multiple non-graded components:*

- | | | | | |
|--|---|--|--|---------------------------------|
| <input type="checkbox"/> Applied Music | <input type="checkbox"/> Clinical | <input type="checkbox"/> Field Experience/Internship | <input type="checkbox"/> Research | <input type="checkbox"/> Studio |
| <input type="checkbox"/> Laboratory | <input checked="" type="checkbox"/> Lecture/Seminar | <input type="checkbox"/> Recitation | <input type="checkbox"/> Independent Study | <input type="checkbox"/> Thesis |

Text(s) planned for use:

Visualization Analysis & Design, Tamara Munzner, 2015, ISBN: 978-1-4665-0891-0.

Course Instructor (include name, position, teaching load):

Penny Rheingans, Director SCIS, 2 courses per year

Reason for new course:

There is currently no course on data visualization at UMaine. This course will be an elective in the Computer Science MS, and PhD degrees, as well as part of a proposed graduate degree on data science. We will generally cross-list the COS 565 with COS 465, which counts as an elective in the Computer Science BA and BS degrees.

Does the course addition require additional department or institutional facilities, support and/or resources, e.g. new lab facilities, computer support and services, staffing (including graduate teaching assistants), or library subscriptions and resources?

- ☒ No. The department will not request additional resources for this course.
- ☐ Yes. Please list additional resources required and note how they will be funded or supported.

What other departments/programs are affected (e.g. course overlap, prerequisites)? Have affected departments/programs been consulted? Any concerns expressed? Please explain.

No other departments/programs are affected.

How often will this course be offered? Will offering this course result in overload salary payments, either through the college or CED, either to the instructor of this course or to anyone else as a result of rearranging teaching assignments?

Approximately once per year, as part of the instructor's normal load. No overload payments should be required.

COS 465/565: Data Visualization

- Instructor:** Dr. Penny Rheingans (penny.rheingans@maine.edu)
Boardman 348A (x1-5183)
- Office Hours:** TBA
by appointment or anytime my door is open
- Prerequisites:** COS 226 or permission of instructor.
- Text:** *Visualization Analysis & Design*, Tamara Munzner, 2015. ISBN: 978-1-4665-0891-0.
- Required reading should be completed BEFORE the first date listed below for maximum benefit.
- Description:** Introduction to the goals, techniques, implementation, and evaluation of visual representations for large quantities of data. Students work with a team to produce a novel visualization solution for a client with application domain data and goals. COS 465 and COS 565 cannot both be taken for credit.

Course Objectives

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

1. Critique the design strengths and flaws of published visualizations.
2. Read and discuss current and seminal technical papers about visualization techniques, systems, and design studies.
3. Discuss the visualization design requirements for different application domains and discovery goals.
4. Be familiar with a diverse set of visualization approaches and techniques, together with situations when they are appropriate.
5. Work with a team to design and implement a prototype visualization solution for a domain client.
6. Describe the design, implementation, and evaluation of prototype visualization solution in an interactive presentation and technical paper suitable for publication.

Tentative Schedule

Date	Topic	Required Reading
Week 1	Overview	Munzner C 1-2
Week 2	Foundations	

Week 3	Design and Validate	Munzner C 3-4,6
Week 4	Design and Validate	
Week 5	Design and Validate	
Week 6	Map Metric Info	Munzner C5,10
Week 7	Map Metric Info	
Week 8	Map Metric Info	
Week 9	Arrange to Reveal Pattern	Munzner C 7-9
Week 10	Arrange to Reveal Pattern	
Week 11	Arrange to Reveal Pattern	
Week 12	Interact and Analyze	Munzner C 11-14
Week 13	Interact and Analyze	
Week 14	Hot Topics and Research Challenges	
Week 15	Project Presentations	

Assignments	Due Date	Weight
Visualization Construction		10%
Critical Review of Visualization		5%
Discussion of Technical Papers		5%
Project		50%
Supplementary Data Analysis (XC for ugrads, req for grads)		10%
Beta Review (XC for ugrads, req for grads)		5%
Draft Review (XC for ugrads, req for grads)		5%

Grades: Grades will be assigned on the basis of quizzes (10%), individual construction and critical review assignments (15%), inclass exercises and participation (10%), paper discussion and analysis (5%) group project (50%), and peer evaluation (10%). Students taking the course for graduate credit will also complete a paper draft review (5%), a beta release review (5%), and an algorithm implementation (10%), with components renormalized to 100%. Those taking the course for undergraduate credit may complete the graduate assignments for extra credit. Letter grades will be assigned according to the following distribution (grades with + or – designator will be given at instructor discretion): A 90-100, B 80-89, C 70-79, D 60-69, F 0-59.

Piazza: This term we will be using Piazza for class discussion. The system is designed for getting you help fast and efficiently from classmates and myself, as well as encouraging a lively dialogue about course topics. Rather than emailing questions to me, I encourage you to post questions of general interest on Piazza. You will receive an email invitation to join the course page.

Campus Policies

Academic Honesty Statement:

<https://umaine.edu/citl/teaching-resources-2/required-syllabus-information/#Academic>

Student Accessibility Services Statement:

<https://umaine.edu/citl/teaching-resources-2/required-syllabus-information/#Accessibility>

Course Schedule Disclaimer (Disruption Clause):

<https://umaine.edu/citl/teaching-resources-2/required-syllabus-information/#Schedule>

Observance of Religious Holidays/Events:

<https://umaine.edu/citl/teaching-resources-2/required-syllabus-information/#Observance>

Sexual Discrimination Reporting:

https://umaine.edu/citl/teaching-resources-2/required-syllabus-information/#Reporting_Long



New Course Proposal

Update 10-3-2017

DEPARTMENT: CIVIL AND ENVIRONMENTAL ENGR COLLEGE: ENGINEERING
COURSE DESIGNATOR: CIE PROPOSED COURSE #: 559
COURSE TITLE: MARINE TURBULENCE EFFECTIVE SEMESTER: SPRING 2020
MaineStreet Effective Date (OSR USE ONLY): _____

Requested Action: Note: A complete Syllabus is required for all new courses, including travel-study courses offered through CED or Summer Session and for the addition of General Education and/or travel-study to an existing course. Please be sure that all elements required for a syllabus at the University of Maine are present. We recommend you work closely with the syllabus check list found at www.umaine.edu/upcc.

NEW COURSE: (check all that apply and complete Section 1):

☒ New Course ☐ One-time course w/GenEd ☐ New Course/GenEd (Complete Section 2)

☐ One-time Course ☐ Experimental ☐ Travel Study Course ☐ Service-Learning*

(* Add SL: before the title of course. Refer to documentation on the criteria for Service-Learning at www.umaine.edu/upcc)

ENDORSEMENTS (Please Print and Sign Name)

DATE

Leader, Initiating Department/Unit(s)

Walter G. Deane / Bill Davids

1/25/19

College(s) Curriculum Committee Chair(s)

Mohamad M. El-Sayid

1-25-19

Dean(s)

Dana Humphrey

1-25-19

Senior Associate Provost for Academic Affairs

Jeffrey St. John

If more writing space is required please staple additional pages to the end of this document

** When determining the number of credit hours for your course please note the Definition of an Undergraduate Student Credit Hour as published in the Undergraduate Catalog:

Definition of an Undergraduate Student Credit Hour: The University of Maine defines a Student Credit Hour in an undergraduate program as an expectation, on average, of approximately 45 clock hours of student academic engagement per credit hour per course. Student Academic Engagement in a course can take many forms including, but not limited to: class time, testing, reading, writing, studying, discussion group time, laboratory work, internships, practica, practicing, performing or otherwise working on course content. **

PROPOSED CATALOG DESCRIPTION:

Designator: CIE

Number: 559

Title: MARINE TURBULENCE

Prerequisites: ~~CIE 350, MEE 360, CIE 350, MEE 360, CIE 350, MEE 360~~ CIE 350/ MEE 360 OR PERMISSION OF INSTRUCTOR

Credit Hours: 3

Does it meet Service Learning?: NO

Description:

AN INTRODUCTORY COURSE ON TURBULENCE AND MIXING IN A MARINE ENVIRONMENT. TOPICS INCLUDE THE REYNOLDS AVERAGED NAVIER-STOKES EQUATIONS, ENERGY CASCADE, TURBULENCE SPECTRUM, MEASUREMENTS OF TURBULENCE AND MIXING IN A COASTAL ENVIRONMENT.

REASON FOR NEW COURSE Please include updated catalog changes when submitting course

TO BROADEN COURSE OFFERINGS IN COASTAL ENGINEERING SUBDISCIPLINE OF CIVIL ENGINEERING

Can this course be repeated for credit? Yes ☒ No (If no please skip the next two questions)

If YES, total number of credits allowed: _____ If YES, total number of completions allowed: _____

Can students enroll multiple times in term? Yes No

Catalog Edits

Please include relevant catalog language here along with any edits that will be necessary with the addition of this course.

____ YES, I have submitted catalog changes documenting how this new course will add to/change the degree requirements for any relevant majors/minors.

☒ NO, this course will not be added to any lists of requirements, and therefore I have no submitted catalog changes for it.

COMPONENTS (TYPE OF COURSE/USED BY STUDENT RECORDS FOR MaineStreet)

Please check ONLY ONE box unless the proposed course will have multiple non-graded components:

Applied Music		Lecture	<input checked="" type="checkbox"/>
Clinical		Recitation	
Field Experience/Internship		Research	
Independent Study		Seminar	
Laboratory		Studio	
Service-Learning *			

*Refer to documentation on criteria for Service-Learning at: www.umaine.edu/upcc

OTHER SPECIFIC INFORMATION:

n/a

When will this course typically be offered? (Please Check all that Apply)

Fall	Alternating
Spring <input checked="" type="checkbox"/>	
Summer	

Please explain how Student Learning Outcomes for the course as presented in the course syllabus align with the Student Learning Outcomes for the proposed general education category (Examples):

THIS COURSE IS NOT A GENERAL EDUCATION COURSE

THIS SECTION MUST BE COMPLETED FOR GENERAL EDUCATION APPROVALS:

CHECK ALL AREAS FOR WHICH A COURSE IS PROPOSED* - Max. 2

Quantitative Literacy	
Lab Science	
Science Applications	
Western Cultural Traditions	
Population & Environment	
Cultural Diversity or International Perspectives	
Artistic & Creative Expressions	
Social Context & Institutions	
Ethics	
Writing Intensive	
Capstone Experience	

*For information on General Education descriptions please see: www.umaine.edu/upcc

Please provide rational for assigning a Gen Ed to this course:

n/a

TEXT(s) PLANNED FOR USE: (if more room is needed please attach a separate page)

TURBULENCE. AN INTRODUCTION FOR SCIENTISTS AND ENGINEERS
BY P. A. DAVIDSON

COURSE INSTRUCTOR: (Include name, position and teaching load)

KIMBERLY HUGUENARD, ASSISTANT PROFESSOR, 50% (3 COURSES PER YEAR)
STARTING FALL 2019

Are additional resources required for this course?:

☒ **No.** The department will not request additional resources for this course, now or in the future, unless the request is accompanied by an explanation of how the increased funding or other support is to be provided.

☐ **Yes.** Please list additional resources required and note how they will be funded or supported

Does the content of this course overlap significantly with other University courses? If so, list the course, explain the overlap, and justify the need for the proposed course.

THIS COURSE DOES NOT OVERLAP WITH ANY OTHER UNIVERSITY
COURSES.

What other department/programs are affected? Have affected departments/programs been consulted? Any concerns expressed? Please explain:

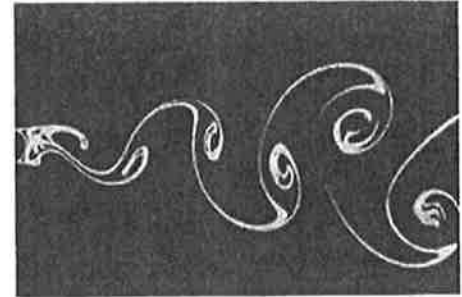
NO OTHER DEPARTMENTS / PROGRAMS ARE AFFECTED.

Will offering this course result in overload salary payments, either through the college or DLL either to the instructor of this course or to anyone else as a result of rearranging teaching assignments? If yes, please explain:

NO



CIE 559
Marine Turbulence
 Spring Semester 2019
 4:00PM – 5:15PM TTH
 Boardman Hall 209



Instructor: Dr. Kimberly Huguenard
 Office: 306 Boardman Hall
 Phone: 581-1216
 Email: Kimberly.huguenard@maine.edu
 Office Hours: M W 2-3:15 pm or by appointment (email to schedule)

Required Textbook: Davidson, P. A. (2015) *Turbulence: An introduction for scientists and engineers*

Other resources: Thorpe, S. A. (2007) *An Introduction to Ocean Turbulence*
 Book is available for free as a .pdf on class website
 Thorpe, S. A. (2005) *The Turbulent Ocean*
 Baumert, Simpson and Sundermann (2005) *Marine Turbulence: Theories, observations and models*
 Pope, S. B. (2000) *Turbulent flows*
 Tennekes and Lumley (1972) *A first course in turbulence*

Prerequisites: CIE 350/MEE 360 or permission of instructor

Grading:

Homework	60%
Project Oral Presentation	15%
Project Written	25%

<u>Score</u>	<u>Letter Grade</u>	<u>Score</u>	<u>Letter Grade</u>
93-100	A	70-72.9	C-
90-92.9	A-	67-69.9	D+
87-89.9	B+	63-66.9	D
83-86.9	B	60-62.9	D-
80-82.9	B-	< 60	F
77-79.9	C+		
73-76.9	C		

Course Description and Outcomes: This course is an introductory course on turbulence and mixing in the ocean. Through this course, students will gain hands on experience in turbulence data collection, processing and analyzing. Topics include: Reynolds Averaged Navier-Stokes equations, the energy cascade, the turbulence spectrum, and measurements of turbulence and mixing in a coastal environment.

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

1. Formulate the statistical properties of turbulence
2. Derive turbulence closure in the Reynolds-Averaged Navier-Stokes Equations

**Class,
Assignment and
Attendance
Policies**

3. Collect, process and analyze oceanic turbulence and mixing data

- Homework is due at the **beginning** of class on the due date.
- The class website is on Google Classroom. The code is x7pp4z. This website will show announcements, the syllabus and the most up to date course schedule.
- Homework is critical in practicing what you learn in class. You can work in groups on problems, but you are NOT allowed to copy each other.
- **Academic honesty** is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.
- If you have a **disability** for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, 581.2319, as early as possible in the term. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with me (the instructor of the course) privately as soon as possible.
- In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.
- The University of Maine recognizes that when students are observing significant religious holidays, some may be unable to attend classes or labs, study, take tests, or work on other assignments. If they provide adequate notice (at least one week and longer if at all possible), these students are allowed to make up course requirements as long as this effort does not create an unreasonable burden upon the instructor, department or University. At the discretion of the instructor, such coursework could be due before or after the examination or assignment. No adverse or prejudicial effects shall result to a student's grade for the examination, study, or course requirement on the day of religious observance. The student shall not be marked absent from the class due to observing a significant religious holiday. In the case of an internship or clinical, students should refer to the applicable policy in place by the employer or site.
- **Sexual Discrimination Reporting.** The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination involving members of the campus, your teacher is required to report this information to the campus Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity.

If you want to talk in confidence to someone about an experience of sexual discrimination, please contact these resources:

For confidential resources on campus: Counseling Center: 207-581-1392 or Cutler Health Center: at 207-581-4000.

For confidential resources off campus: Rape Response Services: 1-800-871-7741 or Partners for Peace: 1-800-863-9909.

Other resources: The resources listed below can offer support but may have to report the incident to others who can help:

For support services on campus: Office of Sexual Assault & Violence Prevention: 207-581-1406, Office of Community Standards: 207-581-1409, University of Maine Police: 207-581-4040 or 911. Or see the OSAVP website for a complete list of services at <http://www.umaine.edu/osavp/>



NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORM FOR GRADUATE COURSES

Graduate course proposals, modifications, or eliminations must be submitted to the Graduate School no later than the 3rd of each month. Please refer to the Graduate School website for the Curriculum Committee meetings schedule. Electronic signatures and submission is required.

Please return the completed e-form with appropriate signatures and documentation to the Graduate School by saving the form to your desktop and sending as an attachment to graduate@maine.edu. Please include in the subject line 'Course Proposal' and the course designator and number.

GRADUATE PROGRAM/UNIT **Maine Business School**

COURSE DESIGNATOR _____ COURSE NUMBER **BUA 670** EFFECTIVE SEMESTER **Fall 2019**

COURSE TITLE **Managerial Marketing**

REQUESTED ACTION

NEW COURSE (check all that apply, complete Section 1, and submit a complete syllabus):

- ☒ New Course
☒ New Course with Electronic Learning
☐ Experimental

MODIFICATION (Check all that apply and complete Section 2):

- | | | |
|--|--|--|
| <input type="checkbox"/> Designator Change | <input type="checkbox"/> Description Change | <input type="checkbox"/> Cross Listing (must be at least 400-level) ¹ |
| <input type="checkbox"/> Number Change | <input type="checkbox"/> Prerequisite Change | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Title Change | <input type="checkbox"/> Credit Change | |

ELIMINATION:

- ☐ Course Elimination

ENDORSEMENTS

Please sign using electronic signatures. If you do not already have a digital signature, please click within the correct box below and follow the on-screen instructions.

Leader, Initiating Department/Unit(s)

College(s) Curriculum Committee Chair(s) [if applicable]

College Dean(s)

Graduate School [sign and date]

1. Courses cross-listed below 400-level require the permission of the Graduate School.

SECTION 1 (FOR NEW COURSE PROPOSALS)

Proposed Catalog Description (include designator, number, title, prerequisites, credit hours):

BUA 670 Managerial Marketing is designed to explore both the theory and application of marketing concepts from a managerial perspective. The course emphasizes marketing decision making and marketing strategy development through case studies and marketing planning activities.

Prerequisites: BUA 270 or equivalent or Business School Graduate Marketing Tutorial; MBA student or permission from Business School Office of Graduate Programs

Credits: 3

Components (type of course/used by Student Records for MaineStreet) – *Multiple selections are possible for courses with multiple non-graded components:*

- | | | | | |
|--|--|--|--|---------------------------------|
| <input type="checkbox"/> Applied Music | <input type="checkbox"/> Clinical | <input type="checkbox"/> Field Experience/Internship | <input type="checkbox"/> Research | <input type="checkbox"/> Studio |
| <input type="checkbox"/> Laboratory | <input type="checkbox"/> Lecture/Seminar | <input type="checkbox"/> Recitation | <input type="checkbox"/> Independent Study | <input type="checkbox"/> Thesis |

Text(s) planned for use:

The course is built on a set of readings with cases.

Course Instructor (include name, position, teaching load):

Dmitri Markovitch, Assistant Professor, 5 courses per year

Reason for new course:

Originally combined together with management information systems instruction, the graduate faculty believes we now need expanded coverage of marketing in the MBA program. That expanded coverage is provided in this stand alone course.

Does the course addition require additional department or institutional facilities, support and/or resources, e.g. new lab facilities, computer support and services, staffing (including graduate teaching assistants), or library subscriptions and resources?

- ☒ No. The department will not request additional resources for this course.
- ☐ Yes. Please list additional resources required and note how they will be funded or supported.

What other departments/programs are affected (e.g. course overlap, prerequisites)? Have affected departments/programs been consulted? Any concerns expressed? Please explain.

No other departments or programs are affected by the addition of this course.

How often will this course be offered? Will offering this course result in overload salary payments, either through the college or CED, either to the instructor of this course or to anyone else as a result of rearranging teaching assignments?

Once or twice per year. No overloads planned.

**University of Maine, Orono
Maine Business School**

SYLLABUS

Course title: Managerial Marketing - BUA 645
Credit Hours: 3
Semester: Fall 2018

Instructor: Dr. Dmitri G. Markovitch, PhD	Starting Date: 09/04/2018
Office: DP Corbett 340	Class Time: Thursday 6-8:50 pm
Phone: 207-581-1992	Classroom: DP Corbett 215
Email: dmitri.markovitch@maine.edu	

Office Hrs: Thursday 1-2 pm, by appointment (this will work best for most of you), or knock and come in if my door is open.



COURSE DESCRIPTION: Marketing is the art and science of creating customer value and marketplace exchanges that benefit the customer and organization. This course is designed to explore both the theory and applications of marketing concepts from a managerial perspective. It covers a wide range of topics, including customer base analysis, marketing research, opportunity recognition, strategy formulation, branding, product management, pricing, distribution, and promotion. The material is explored through a mix of lectures, discussions, cases, exercises and in-class activities that involve individual and team work.

LEARNING OUTCOMES: Upon successful completion of the course, the student should:

- achieve a high level of proficiency with marketing terms, concepts and theories;
- be able to think strategically about marketing in organizations;
- enhance problem-solving and decision-making skills within a broad marketing management context;
- improve critical thinking skills through the analysis of marketing cases;
- achieve marketing planning proficiency.

REQUIRED READINGS:

1. Text: Roger J. Best "Market-Based Management", Pearson Education, 6th Edition, 2013, ISBN-10: 0-13-038775-4; ISBN-13: 978-0-13-038775-2.
2. Students are required to purchase a coursepack of business articles and case studies from Harvard Business Publishing. The coursepack is purchased as a complete download for \$29.75. Printed coursepack is available at additional charge after digital purchase. The

coursepack can be accessed using the following link: <https://hbsp.harvard.edu/import/560645>.

3. I may provide additional readings from the business press and links to online material.

PEDAGOGY: Effective learning in this course requires a high degree of involvement and interaction both in the classroom and outside of class hours (i.e., teamwork to prepare class assignments). The learning methods are a combination of lectures, case study, an entrepreneurial marketing project, exercises, and discussion of thought-provoking articles from the business press.

Cases

Students are expected to prepare and participate in the analysis of six cases. Business cases present actual challenges and dilemmas encountered by managers. They require students to assess the situation and generate a well-reasoned recommendation. Therefore, cases provide students with an opportunity to select, adapt and apply the marketing tools they have learned in class. Case preparation should be done individually, without consultation with classmates.

- **Case summaries and preparation questions** are provided at the end of this syllabus. I treat cases as a standard assignment with clear deliverables before and during class. Being prepared for a case study class means working through the preparation questions, answering the questions directly, and preparing supporting comments, arguments, and analyses for class discussion.
Note: Business cases tend to be complex and factual. Only reading through a case will not result in sufficient preparation for class participation.
- **Case preparation notes.** Your case preparation effort should produce a set of notes for use during in-class discussion and analysis. The notes will normally highlight the key facts, contain numerical analysis, provide specific answers to the preparation questions and recommend a course of action with supporting arguments. Your case preparation notes do not have to be polished, edited or well-organized. However, they need to be legible, so that I can evaluate how you addressed the preparation questions. Each student is required to upload a copy of their preparation notes prior to each *new* case class. Name the notes file using your first initial, last name, e.g., *JSmith.docx*.

Reflections on Course Topics

I will create a general thread on the Discussion Board on Blackboard for each class topic. Students are expected to make a minimum of four posts over the course of the semester addressing at least two distinct topics. (E.g., one can make four separate posts on four topics—one per topic—or make two linked posts on one topic and two posts on another topic.) The posts can be of any reasonable length and should reflect a student's thinking about some aspect, challenge or application within the domain of the topic. The posts may open a conversation or extend it in a meaningful way. This is your opportunity to internalize course material, consider the implications, and relate it to real-world situations or a challenge you may be facing at work. Accordingly, I will grade the posts based on their thoughtfulness and contribution to class discussion.

Notes: (1) Class Discussion Board is a forum for student expression. Although I will read and grade all posts, and may comment occasionally, I expect the class to carry out the conversation without my moderation. (2) The posts should be yours. Reposting someone else's thoughts in largely unaltered form and without attribution is a grave offence and will

result in a formal charge of plagiarism. Reposting with attribution may serve a purpose, but will not count towards your grade. Building on some else's ideas, with attribution, is legitimate, so long as your post includes a reasonable amount of original contribution.

Shark Tank Project

The project involves student teams developing and pitching a marketing plan for a new business. A successful entrepreneurial project will detail how you will make money in the short term and long run. In particular, it will clearly state (1) the market opportunity, (2) how you will address it—your unique selling proposition, (3) the architecture of revenues and profits (i.e., how you'll make money) and (4) your funding requirements. Both the plan and pitch should be crafted so as to maximize the chances of the proposal to be funded. The instructor and the class are potential shark investors.

Teams. Students form three-person teams and designate captain who will be the primary point of contact with the instructor (for communication purposes and submissions).

Personal ad. To help create compatible teams, students are required to post a brief personal ad (up to 200 words) that provides any information you deem useful for attracting potential teammates. This may include what you will bring to the table (e.g., financial analysis skills), your availability or commitment to this project, interest in a particular industry, etc. The ad should include your name and contact info (email). The ad must be posted on Blackboard by the deadline specified in the schedule (at the end of this syllabus). Keeping in mind that the process may take time and there will be failed connections, students are encouraged to evaluate the personal ads promptly and reach out to multiple individuals whom they see as a good fit. I will assign unattached students after the deadline or upon request.

Assignment.

- i. Study the customer experience within a product category of your choice.
- ii. Identify gaps where customer needs are unfulfilled or poorly fulfilled. You can base this on your personal observations or secondary sources (e.g., an article in the business press).
- iii. Develop a new business idea to address the customer experience gap. (E.g., Masaru Ibuka of Sony noticed consumers' need to listen to music on the go and, at the same time, the lack of portable music devices on the market. Some people went as far as carrying their boom-boxes around. The potential market for the product was enormous. In response, he developed Sony Walkman, which was the first portable music player with stereo sound.)
- iv. Develop a Marketing Plan that includes the following sections:
 - Executive summary (*1-2 paragraphs, 2/3 page max*). It should include:
 - brief description of the customer experience gap and marketing opportunity
 - your proposed product/service offering to address the gap
 - key elements of your marketing strategy
 - Marketing opportunity
 - describe the customer experience gap (*1 paragraph*)
 - discuss market potential/attractiveness, e.g., current demand, growth rate, competitiveness, and expected market share (*1 paragraph*)
 - The offering (describe your proposed product/service offering in a manner that clearly indicates how it will address the unfulfilled customer needs (*1/2 page*))

- Goals (formulate 1-3 objectives appropriate for a start-up business; one of the objectives should specify revenue targets) (*use bullet points*)
- Marketing strategy
 - Target market(s). Depending on the product and context, it may be useful to add a few lines that justify the selection (*1-3 paragraphs*)
 - Positioning (discuss points of difference) (*1-2 paragraphs*)
- Tactics
 - Pricing strategy and specific price points, if appropriate (*1-2 paragraphs*)
 - Distribution/go-to-market channels (*1-2 paragraphs*)
 - Promotional mix (*1-2 paragraphs*)
- Financials
 - List and provide estimates of key costs you must incur to roll out the product/service.
 - Break-even analysis, if possible
 - One-year ahead quarterly or monthly profit-and-loss (aka, 'income') statement that includes the following line-items (use a standard Income Statement format):
 - Sales
 - COGS
 - Marketing expenses
 - General and administrative expenses
 - Employee salaries
 - Other operating expenses
 - Profit or loss

Presentation. Teams use the marketing plan to prepare a marketing pitch to the sharks. This should not be a direct restatement of the plan, but a focused sales pitch that expands on the key points. The pitch should convince the investors to fund your idea. Ask for a specific dollar amount at the end. The amount should flow out of your financial analysis. Each team will have 12 minutes to present and 12 minutes for Q&A. (I.e., the sharks tend to ask hard questions to probe for weaknesses in your plan.)

Note: The presentation will be graded based on its quality as a marketing pitch, which is somewhat independent of the quality of the Plan. To earn a high score, the presenters must demonstrate enthusiasm, creativity, persuasiveness and public speaking ability.

Two Written Submissions (both must be single-spaced, 12 Times New Roman font, one inch margins all-around).

- Submission 1 (up to 1 page) – this submission is not graded. Its purpose is to give me an opportunity to provide early feedback on your project. (A late submission on non-submission will result in a penalty.)
 - Marketing opportunity
 - describe the customer experience gap (*1 paragraph*)
 - discuss market potential/attractiveness, e.g., current demand, growth rate, competitive intensity (*1 paragraph*)
 - The offering. Describe your proposed products or service in a manner that clearly indicates how it will address the unfulfilled customer needs (*1/2 page*)
- Submission 2 (up to 6 pages, all-inclusive)
 - Complete Marketing Plan, including the Executive Summary and Financials

Assessment. Your Marketing Plan will be judged based on the following criteria: feasibility, creativity, rigor and logic, appropriate use of class concepts, and exposition quality. A successful entrepreneurial project will detail how you will make money in the short term and long run. In particular, it will clearly state (1) the market opportunity, (2) how you will address it—your unique selling proposition, (3) the architecture of revenues and profits (i.e., how you'll make money) and (4) your funding requirements. Both the plan and pitch should be crafted so as to maximize the chances of the proposal to be funded.

Your presentation will be judged based on the quality of your delivery—preparedness, energy, excitement, and persuasiveness—and Q&A.

Attendance and Participation

In this course, much of the learning will happen in class. Therefore, class attendance and participation are critical to each student's learning and to the learning of his or her classmates. All students are expected to be in class every day (for the full class period), prepared, and engaged. Tardiness and absences will have a meaningful negative impact on your course grade. Each full class absence will result in 1.5% penalty up to a total of 6% penalty for four missed classes. Partial absence (arriving late or leaving early) will incur a partial penalty. Students who miss more than four class meetings without an excused absence will get an F for the course. Missing more than half of the course (eight or more absences) with a combination of excused and unexcused absences may also result in a failing grade at the instructor's discretion.

Notes: (1) You will be formally excused from attendance/participation grades for a particular class if I receive a signed "excused absence" note from individuals recognized as having the authority to issue such notes. (2) If you are absent from class, it is your responsibility to find out from a classmate what you missed (both course material and announcements).

Important Notes

- I treat cases as standard assignments with clear deliverables which are due both before class discussion (preparation notes) and during class discussion (your analysis and recommendation). Being prepared for a case study class means working through the preparation questions, answering the questions directly, and preparing supporting comments and arguments for class discussion. Your preparation notes and participation provide direct evidence of your work.
- Class attendance is not the same as class participation. Each student is expected to make a contribution in every case class and be fully engaged in all class activities at other times.
- I will use the following scheme to grade student participation in case discussions:
 - 5 pts – the student was prepared and made comments that helped advance the discussion;
 - 3 pts – the student was prepared and engaged, but made superficial comments that did not advance case discussion;
 - 0 pts – the student was unprepared or disengaged (did something else);
- You must use a name tent in each class to ensure you receive credit for participation.

Final Exam

The Final Examination is scheduled during the exam week. Details of the exam will be discussed in class, but it will be a combination of quantitative problems, conceptual questions requiring qualitative analysis, and multiple choice questions.

GRADING: Your grades will be based on the default scale where the minimums are: A(93), A-(90), B+(87), B(83), B-(80), C+(77), C(73), C-(70), D+(67), D(63), D-(60), and F(<60), with no rounding. Your grade composition is summarized in the following table.

Grade Component	Weight
Attendance	6%
General Participation	12%
Discussion Board Posts (your reflections on class topics)	10%
Case Study (6 cases, lowest case scores will be dropped)	
Case Preparation Notes	10%
Case Study Contribution	15%
Shark Tank Project*	
Marketing Plan	20%
Shark Tank Pitch & Adversarial Q&A	7%
Final Exam	20%
TOTAL:	100%

* Shark Tank project grades will be weighted by the average of peer evaluation scores using the attached form (at the end of the syllabus).

** Holistic grading. I may choose to evaluate a student holistically on rare occasions where circumstances (supported by evidence) may warrant such an approach.

ADDITIONAL DETAILS

COURSE DISRUPTION POLICY: In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

CLASS ETIQUETTE AND ELECTRONICS POLICY: Please come to class on time. The use of cell phones and electronic devices, including computers, is prohibited unless required for class activity, which will be announced in class. Please refrain from engaging in non-course related activities as this is distracting to everyone around you.

ACADEMIC HONESTY: Academic integrity is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.

APPEALING YOUR GRADE: You can appeal your grade on a specific assignment or for the entire course. This must be done in person. To be successful, you must present evidence why your grade should be changed (e.g., you did not get full credit for correct responses on a test or there was an arithmetical error in computing your score). Note that the instructor decides which test items, if any, qualify for partial credit in cases where the overall answer is incorrect. A student's subjective belief that his/her effort deserves a higher grade does not provide sufficient grounds to achieve a change of grade.

STUDENTS WITH DISABILITIES: If you have a disability for which you may be requesting an accommodation, please contact Disabilities Services, 121 East Annex, 581-2319, as early as possible in the term.

SEXUAL DISCRIMINATION REPORTING: The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of **sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination** involving members of the campus, **your teacher is required to report** this information to the campus Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity.

If you want to talk in confidence to someone about an experience of sexual discrimination, please contact these resources:

For confidential resources on campus: **Counseling Center: 207-581-1392 or Cutler Health Center: at 207-581-4000.**

For confidential resources off campus: **Rape Response Services: 1-800-310-0000 or Spruce Run: 1-800-863-9909.**

Other resources: The resources listed below can offer support but may have to report the incident to others who can help:

For support services on campus: **Office of Sexual Assault & Violence Prevention: 207-581-1406, Office of Community Standards: 207-581-1409, University of Maine Police: 207-581-4040 or 911.** Or see the OSAVP website for a complete list of services at <http://www.umaine.edu/osavp/>.

COURSE SCHEDULE

Week/ Date	Topics & Activities	Readings & Assignments	Deliverables
1. 9/6	0. Course Overview -Course introduction, assignments & expectations 1. Customers as Assets -Toolkit: Customer lifetime value (CLV) -Customer orientation	-Read the Syllabus -Text: Ch. 1	1. Post your personal ad on the Bb by 8pm on 9/9 (details are on p. 3). 2. Evaluate your classmates' ads and make contact with prospective teammates to form a Shark Tank team.
2. 9/13	2. The Big Picture: Marketing Process & Marketing Strategy -The marketing process -Marketing strategy 3. Toolkit: Creating a Compelling Marketing Plan 4. The Case Study Method -Case preparation, analysis & discussion	-Text Ch. 6 pp. 191-205, Ch. 14 -Read HBR Article: How to Crack Well-Guarded Markets	1. Students finalize 3-person Shark Tank teams & designate Captain 2. Captains email me with team composition by 8pm on 9/14 3. Email me if you could not find a team and want to be assigned
3. 9/20	5-1. Opportunity Analysis -Situation analysis -Toolkit: Market size and market share analysis	-Text Ch. 3 pp. 81-90 and pp. 104-110, Ch. 6 pp. 206-220 -Groups start work on their Marketing Projects	
4. 9/27	5-2. Opportunity Analysis (cont'd) -Situation Analysis (cont'd) -Case Study 1: Rayovac Corp: The Rechargeable Battery Opportunity	-Prepare Rayovac case (i.e., develop recommendations with supporting logic)	1. Upload Rayovac preparation notes
5. 10/4	6. Developing Market Insights -Marketing research 7. Buyer Behavior	-Further understanding of marketing planning and metrics: Text Ch. 2, Ch. 11	1. Captains upload Shark Tank Project Submission 1 to Bb by 6pm on 10/6
6. 10/11	8. Focusing on the Right Customer -Segmentation & Targeting -Case Study 2: Ford Ka	-Text Ch. 5 -Prepare Ford Ka case	1. Upload Ford Ka preparation notes
7. 10/18	9. Strategic Positioning -Positioning -Case Study 3: Clean Edge Razor	-Text Ch. 7 pp. 229-242 -Prepare Clean Edge case	1. Upload Clean Edge Razor preparation notes 2. Submit your intermediate peer evaluations through Bb

Date	Topics & Activities	Reading & Case Preparation Assignments	Submissions & Simulation Assignments
8. 10/25	10-1. Product & Brand Decisions -Existing products -New products	-Text Ch. 4 pp. 115-126, 143-150, Ch. 7 pp. 242-264, Ch. 3 pp. 90-103	
9. 11/1	10-2. Product & Brand Decisions (cont'd) 11-1. Capturing Value through Pricing -Pricing approaches -EVC analysis - Metabical – preview of the forecasting task	-Text Ch. 8, Ch. 4 pp. 126-142 -Read Metabical case and start thinking about the math	
10. 11/8	11-2. Pricing (cont'd) -Case Study 4: Metabical discussion	-Prepare Metabical case -Text Ch. 9	1. Upload Metabical preparation notes
11. 11/15	12-2. Go to Market Strategies -Marketing Channels and Distribution -Case Study 5: Natureview Farm	- Prepare Natureview Farm case	1. Upload Natureview Farm preparation notes
12. 11/22	NO CLASS – THANKSGIVING BREAK		
13. 11/29	13-1. Promotion -Integrated Marketing Comms -Advertising	-Text Ch. 10	
14. 12/6	13-2. Promotion -Alternative Promotion Strategies -Case Study 6: Mekanism – Engineering Viral Marketing	-Prepare Mekanism case	1. Upload Mekanism preparation notes
15. 12/13	14. Ethical Considerations 15. Presentations & Wrap-up -Shark Tank pitches -Course wrap-up		1. Captains upload Shark Tank Project Submission 2 to Bb 2. Submit your final peer evaluations through Bb
16. 12/20	Final Exam administered through Bb. Start time is 7:45pm		

* **Note:** This schedule is subject to change. You are responsible for any changes announced in class or posted on Blackboard.

CASE SUMMARIES AND PREPARATION QUESTIONS

1. RAYOVAC CORPORATION--THE RECHARGEABLE BATTERY OPPORTUNITY

The vice president of sales and marketing was contemplating how to grow the Rayovac Battery Division of Spectrum Brands Canada Inc. (Spectrum). Spectrum, a global consumer products company, owned a variety of brand name products. The vice president of sales and marketing knew that, with effective marketing, the rechargeable battery market was one that would likely grow within North America as it had in Europe. Major competitors were not focusing on this product category, fearful that it would cannibalize sales of their non-rechargeable products. Rayovac could use this opportunity to increase its presence and brand name recognition by entering the "back door" instead of competing head-to-head against the well-established market leaders--Duracell and Energizer. The vice president wondered whether this was a business worth pursuing and, if so, how he would market the Rayovac line within Canada.

Preparation questions:

1. Assess the rechargeable market opportunity for Rayovac. Is this a viable growth opportunity for the company to consider?
2. What strategy should the company pursue if it chooses to enter this market?
3. What are the financial implications of your strategy recommendations?
4. What are the risks associated with the recommended strategy and how can Rayovac mitigate against these risks?
5. Additionally, make recommendations for the following:
 - a. Target market(s)
 - b. Positioning
 - c. Gaining channel support
 - d. Promotion strategy

2. FORD KA (A): BREAKING NEW GROUND IN THE SMALL CAR MARKET

In response to the changes in the European small car market, Ford decided to launch a second small car, the Ford Ka. The Ford Ka has already been developed, the production capacity determined, and the launch set for October 1996 in France. Before Gilles Moynier can get to the specifics of the marketing strategy, he must decide who the target customer for the Ford Ka should be.

Preparation questions:

1. How did Ford (and car manufacturers in general) segment the overall car market?
2. What was the typical small car marketing strategy in the past?
3. Why did Ford develop the Ford Ka?
4. Is the existing segmentation approach still applicable?
5. What segmentation approach do you recommend and who is your target buyer? Why?
6. What potential implementation problems do you expect with your recommended approach? How can you overcome them?

3. CLEAN EDGE RAZOR: SPLITTING HAIRS IN PRODUCT POSITIONING

After three years of development, Paramount Health and Beauty Company is preparing to launch a new technologically advanced vibrating razor called Clean Edge. The innovative new design of Clean Edge provides superior performance by stimulating the hair follicles to lift the hair from the skin, allowing for a closer shave. The company has already decided to introduce Clean Edge into the men's market where it has a strong presence. Jackson Randall, the product manager for Clean Edge, struggles with how best to position the product for the launch. One strategy is to release Clean Edge as a "niche" product, targeting the high-end market of fastidious groomers looking for superior skin care products. Another strategy is to release the product into the highly competitive mainstream razor market where the product can be positioned as the most effective razor available. Randall meets internal resistance to the mainstream strategy from the product manager for the company's current, but aging, mainstream razor products and he must consider the effects of cannibalization in his plan. Randall must recommend an optimal strategy and provide supporting economic analysis of his decision--not just for Clean Edge, but for its effect on the entire company.

Preparation questions:

1. What changes are occurring in the disposable razor category?
2. Assess Paramount's competitive position. What are the strategic life cycle challenges for Paramount's current products as well as for Clean Edge?
3. How is the nondisposable razor market segmented? Examine consumer behavior for nondisposable razors.
4. What are the arguments for positioning and launching Clean Edge as (a) a niche product or (b) a mainstream product?
5. Which positioning strategy would you recommend?
6. What are the strategic implications of your recommendation?
7. Based on your positioning strategy, what brand name and marketing budget allocations would you advise?

4. METABICAL: PRICING, PACKAGING, AND DEMAND FORECASTING FOR A NEW WEIGHT-LOSS DRUG

Metabical is a new weight loss drug from Cambridge Sciences Pharmaceuticals intended for moderately overweight individuals. In anticipation of final FDA approval, the senior director of marketing, Barbara Printup, prepares for the product launch and must make several critical decisions. First, she must select the optimal packaging size for the drug which typically requires a 12-week course of treatment. Next, she must determine the appropriate pricing. Since most insurance companies do not cover weight-loss medications, price has a direct impact on the sales forecast. To establish the initial demand forecast, Printup considers three approaches based on different assumptions. Her final recommendations must consider long term profitability and meet the company's desired return on investment. The case includes a quantitative assignment for students.

Preparation questions:

1. How does Metabical compare to current weight-loss options?
2. What are the pros and cons of the forecasting methods presented by Printup? If you had to estimate demand for this product, how would you go about it?
3. What would your demand (unit) forecast look like for the first five years?

4. What considerations should be taken into account when making decisions about the package count?
5. What package size would you recommend?
6. What are the advantages and disadvantages of the different pricing strategies?
7. What price would you recommend?
8. What impact does your pricing decision have on profitability?
9. What is the ROI over the first five years for each of the pricing strategies identified? Assume that CSP will spend \$14,896,000 on marketing annually in years 2-5.

5. NATUREVIEW FARM

The case explores channel management issues in the U.S. food industry. Natureview Farm, a Vermont-based producer of organic yogurt with \$13 million in revenues, is the leading national yogurt brand (24% market share) sold into natural foods stores. It has achieved this through its special yogurt manufacturing process and through cultivating personal relationships with dairy buyers in the natural foods channel. Set in 2000, when the company faces financial pressure to grow revenues to \$20 million by the end of 2001 due to a planned exit by its venture capital investors. The immediate decision point that the protagonist, Natureview's vice president of marketing, faces is whether to achieve this revenue growth by expanding into the supermarket channel.

Preparation questions:

1. How has Natureview succeeded in the natural foods channel?
2. What are the two primary types of growth strategies under consideration by Natureview?
3. How do the three options compare financially in terms of yearly revenue, gross margin, required investment, and profit potential?
4. What are the strategic advantages and risks of each option? What channel management and conflict issues are involved?
5. What action plan should the company pursue?
6. What changes in the marketing mix, sales, brand and channel partner arrangements do you recommend in order to implement the action plan?
7. If the venture capitalists extended their deadline for meeting the \$20 million revenue target by 12 to 18 months, would that change your recommended action plan? How? Why?

6. MEKANISM: ENGINEERING VIRAL MARKETING

The Mekanism case introduces students to a digital media production company specialized in creating viral marketing campaigns for advertising agencies and their clients (e.g., Microsoft, AXE, eBay, Toyota, etc.). Mekanism has grown tremendously from 2007 to 2010 in part due to the rise of viral marketing as a promising promotion tool for advertisers to reach and engage with consumers cheaply and quickly via word-of-mouth. Mekanism's president is contemplating expanding its services to other advertising content and media (e.g., television, print, online) in effect becoming a full-service ad agency. This case is intended to discuss whether Mekanism should 'evolve' into an ad agency or keep focused on producing and distributing viral marketing content.

Preparation questions:

1. How is the advertising landscape changing? How does that impact Mekanism?
2. What role can viral marketing play as a promotional tool for advertisers?

3. What is Mekanism's secret sauce for "engineering virality?"
4. Should Mekanism keep focusing on producing viral marketing only or diversify into producing and distributing other ad content, and hence evolving towards a full service ad agency?

MARKETING PROJECT PEER EVALUATION FORM

Instructions: In the table below, list the name of each of your teammates, starting with yourself. Rate each person on a scale from 0% to 100% according to their contribution to team work on the project. You are free to rate everyone at 100%, in which case each person gets 100% of the group grade. This standard means that each person in the group generally pulled his or her weight. Be fair!

	Name (First, Last)	Overall Effort (0-100%)
Your name:		
Teammate 2		
Teammate 3		
Teammate 4		
Teammate 5		

Notes:

* Percentages are independent and do not add up to 100%.

** If I do not receive a peer evaluation form from you, I will assume your effort rating is 100% for everyone.

*** To minimize individual biases, I will reduce a team member's score only if multiple teammates rate that individual at less than 100%. In that case, the student's weight will be the average of ratings submitted by the teammates.

Comments on your peer evaluations (optional):

SYLLABUS AND COPYRIGHT AGREEMENT

Course: BUA 645
Instructor: Prof. Dmitri G. Markovitch

Each student enrolled in this course must carefully read the syllabus and the following statements. The students will initial each of the statements and sign below. The students may not progress in this course until the completed agreement is returned to the instructor.

_____ *I certify that I have read the syllabus and that I understand it is a contract between the instructor and me.*

_____ *I realize that I am responsible for my performance and progress in this class and that I need to talk with the instructor if I experience difficulties.*

_____ *I also understand that this class will require 2 to 3 hours a week of preparation outside class for each credit hour.*

_____ *The materials (lecture slides and handouts) distributed in class or posted on Blackboard are only for the use of students enrolled in this course for purposes associated with this course. The course materials are copyrighted and may not be disseminated without Prof. Markovitch's written consent.*

Student Name: _____

Signature: _____ Date: _____