Graduate Board
Thursday, November 12, 2020
By Zoom:

Join Zoom Meeting
ID: 98755046066
Password: 796978
+1 312-626-6799

3:00 pm

AGENDA

1. Guest: Executive Vice President for Academic Affairs and Provost John Volin

2. Discussion of mental health services for UMaine graduate students –facilitated by UMaine counseling staff

3. November 3, 2020 Graduate Curriculum Committee report

4. Implications of unified accreditation with regard to cross campus instruction – Jim McClymer

5. Proposed revision of policy 2.1.2 (Graduate Admissions Examinations)

6. Brief announcements
    - Call for nominations for Graduate School fellowships, assistantships and scholarships
    - Thanksgiving pivot to remote instruction
    - Asymptomatic testing following Thanksgiving break

7. Items arising

CURRICULUM COMMITTEE REPORT

The Curriculum Committee met on November 3rd, 2020 and, is recommending the following courses to the Graduate Board for approval at its November 12th meeting.

New Courses:

ANT 598 Independent Study

CIE 554 Natural System Hydrodynamics

CIE 555 Computational Methods for Water Resource Engineering

COS 530 Introduction to Cybersecurity

FSN 575 Sensory Evaluation Laboratory

NUR 675 Philosophical Foundations and Ethical Decision Making Frameworks for Advanced Practice Nursing

Modifications:

FSN 585 Sensory Evaluation I

THE UNIVERSITY OF MAINE

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 Anthropology

COURSE DESIGNATOR ANT COURSE NUMBER 598 EFFECTIVE SEMESTER Spring 2021

COURSE TITLE Independent Study

REQUESTED ACTION

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

- [x] New Course
- [ ] New Course with Electronic Learning
- [ ] Experimental

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

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

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)

Timothy M. Gee

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):

ANT598-Independent Study, permission required, 1-3 variable credits.
Independent study in Anthropology; specific content, scheduling, and credit hours to be arranged in consultation with the instructor.

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:

TBD

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

TBD

Reason for new course:

"ANT597-Advanced Topics in Anthropology" is occasionally used for independent studies, but more often it is used for stand-alone special-topics graduate seminars or as graduate sections of existing undergraduate courses (where the sections meet together). There are four such sections in the current semester. Because it is also used for independent study, the College requires additional administrative paperwork each time the course is offered (regardless of purpose) to determine whether overload payment is required or not. To avoid the added paperwork every semester.

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.

N/A

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?

The course will be offered as needed. The course will not necessarily require overload payment, but it may on occasion (when it doesn't fall into any of the exception categories outlined by the College - e.g., part of faculty member's research).

THE UNIVERSITY OF MAINE

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 Civil & Environmental Engineering

COURSE DESIGNATOR CIE COURSE NUMBER 554 EFFECTIVE SEMESTER Fall 2021

COURSE TITLE Natural System Hydrodynamics

REQUESTED ACTION

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

- [x] New Course
- [ ] New Course with Electronic Learning
- [ ] Experimental

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

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

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)

William G Dan 5/15/20

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

Digitally signed by Mohamed Mosavi
DN: cn=Mohamed Mosavi, o=University of Maine, ou=College of Engineering, email=mosavi@maine.edu, c=US
Date: 2020.05.15 16:23:25 -04'00'

5/15/20

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):

CIE 554 - Natural System Hydrodynamics, 3 credit hours
Prerequisites - CIE 350/351 (Hydraulics/Hydraulics Lab) or equivalent with grade of B or above, MAT 258 or MAT 259 (Differential Equations) with a grade of B or above, or permission of the instructor.

Description: This course will cover the basic hydrodynamics and physical processes governing flow patterns in lakes, rivers, estuaries and oceans. Topics that will be discussed include typical steady dynamical balances in natural systems; the transport and mixing of salt, heat and momentum; and the temporal and spatial scales of variability in natural systems due to atmospheric forcing, tidal forcing, freshwater flows and morphology.

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:

All Texts will be RECOMMENDED
Valle-Levinson, A. (2010). Contemporary Issues in Estuarine Physics, Cambridge University Press, Cambridge, MA.
Pond, S. and Pickard, G.L. (2013). Introductory Dynamical Oceanography, 2nd Edition, Butterworth-Heinemann, Oxford, UK.
Ji, Zhen-Gang (2008). Hydrodynamics and Water Quality: Modeling Rivers, Lakes and Estuaries, 1st edition, Wiley-Interscience, Hoboken, New Jersey, USA

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

Lauren Ross, Assistant Professor, Civil & Environmental Engineering, 2 courses fall, 1 course spring

Reason for new course:

Lauren Ross is developing her research program in the Civil & Environmental Engineering Program. She has developed graduate level courses to support her research program in Water Resources/Coastal Engineering and this is one such course. This course will provide students in this area with core knowledge essential to their research and future careers. This class will also support the growing Master of Engineering (ME) program in Water and Environment offered by the Civil and Environmental Engineering Department.

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 will be 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?

This course will be offered once every 2 years. This course will not result in overload salary payments.

University of Maine
Department of Civil Engineering
Fall Semester 2020

CIE 554
Natural System Hydrodynamics (3 Credit Hours)
Instructor: Dr. Lauren Ross

SYLLABUS

CLASS MEETINGS: 2 days per week for 1h15

INSTRUCTOR INFORMATION:

Dr. Lauren Ross:	Department of Civil and Environmental Engineering
Office:	319 Boardman Hall
Office Hours:	come by my office anytime or schedule an appointment
Phone:	(207) 581 – 2088
E-Mail:	lauren.ross1@maine.edu

COURSE GOALS AND OBJECTIVES: This course will cover the physical oceanography of rivers, lakes and estuarine systems. Topics that will discussed include: the characteristics, hydrodynamic processes and sediment processes in rivers; the definition and classification of estuaries, typical steady dynamical balances in rivers and estuaries, the transport of salt and momentum, turbulent mixing and the temporal and spatial scales of variability, the characteristics of lakes and reservoirs, hydrodynamic processes, and sediment processes in lakes. We will study how circulation and mixing in coastal environments are affected by atmospheric forcing, tidal forcing and morphology.

TEXTBOOK: None Required. Below are some suggested texts from which the course material was developed:

Valle-Levinson, A. (2010), *Contemporary Issues in Estuarine Physics* Edited by Arnoldo Valle-Levinson.

Dyer, K. (1997), *Estuaries: A physical introduction*, 2nd Ed.

Zhen-Gang, J. (2008), *Hydrodynamics and Water Quality: Modeling Rivers, Lakes and Estuaries*, John Wiley & Sons, Inc., Hoboken, New Jersey, USA.

OTHER COURSE MATERIALS: All homework assignments and course announcements will be on Brightspace

PREREQUISITES: CIE 350/351 (Hydraulics/Hydraulics Lab) or equivalent with grade of B or above; Calculus I to III, MAT 258 or MAT 259 (Differential Equations) with a grade of B or above (or permission by the instructor).
This class will include programming and experience with MatLab is an advantage.
A strong mathematical background and experience with: basic differential and integral calculus, vector calculus, differential equations and partial differential equations will be helpful.

ATTENDANCE: Attendance will not be taken, but of course you are encouraged to attend class. If you can not attend class due to sickness or any other reason, the classes can be recorded and available for you to watch at home.

MAKE-UP POLICY: Make-up assignments will be provided only in the case of a documented illness, emergency or other extraordinary situation.

CLASSROOM RULES: Be respectful. No use of cell phones or any similar device (no texting or calling) allowed during class.

GRADING:

Homework	50%
Mid Term	25%
Final Project	25%
	100%

HOMEWORK ASSIGNMENTS: A series of homework assignments will be given throughout the semester. I will not accept late homework. These assignments are integral to your understanding and retention of the information presented in this class. Take the homework assignments seriously. All data analysis must be done in MatLab. I encourage you to work together to complete homework assignments, but everyone must turn in their own work.

COURSE OUTLINE: In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), 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.

WEEK OF CLASS	TOPIC	ASSIGNMENTS
1	Introduction to Natural Systems: Oceans, Estuaries, Rivers, Lakes	
2	Review of Equations: Mass and Momentum Conservation	
3	Rivers – Measuring streamflow	**Hwk 1 due**
4	Rivers – Rating curves and hydraulic geometry	
5	Estuarine Circulation	**Hwk 2 due**
6	Estuaries - Mean dynamic balances	
7	Estuaries - Mean dynamic balances	
8	Tides in rivers and estuaries	**Hwk 3 due**
9	Bathymetric Effects	
10	Estuarine Variability	**Hwk 4: Mid-term**
11	Sediment Transport	
12	Flushing and Residence Times	**Hwk 5 due**
13	Lakes – Hydrodynamic Processes	
14	Lakes – Wind Effects	**Hwk 6 due**
15	Final Presentations	

FINAL PROJECT: Each student will turn in a final project that will include a ~12 minute presentation and a final paper. The final project will be based on data provided by the instructor. Final project presentations will be held the last week of class. The final paper must be formatted as a research paper (i.e., must include an abstract, introduction to the problem, including motivation, objectives, methods, results, discussion, conclusions, references, and relevant figures). The presentation should tell a logical story. Do not wait to start this, as it will take you longer than you think to finish. The final project report is due by 5pm on December 14th.

University of Maine COVID-19 Syllabus Statement:

COVID-19 is an infectious disease caused by the coronavirus SARS-CoV-2. The virus is transmitted person-to-person through respiratory droplets that are expelled when breathing, talking, eating, coughing, or sneezing. Additionally, the virus is stable on surfaces and can be transmitted when someone touches a contaminated surface and transfers the virus to their nose or mouth. When someone becomes infected with COVID-19 they may either have no symptoms or symptoms that range from mild to severe and can even be fatal. During this global pandemic, it is imperative that all students, faculty, and staff abide by the safety protocols and guidelines set forth by the University to ensure the safety of our campus. All students are encouraged to make the Black Bear Cares Pact to protect the health of themselves, the health of others, and the College of Our Hearts Always.

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. Please see the University of Maine System's Academic Integrity Policy listed in the Board Policy Manual as Policy 314: https://www.maine.edu/board-of-trustees/policy-manual/section-314/.

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.

Students Accessibility Services 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. Lauren Ross) privately as soon as possible.

Course schedule disclaimer (disruption clause):

In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), 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.

Sexual violence policy:

Sexual discrimination reporting: The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell any of your teachers about sexual 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.

Behaviors that can be "sexual discrimination" include sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct, and gender discrimination. Therefore, all of these behaviors must be reported.

Why do teachers have to report sexual discrimination?

The university can better support students in trouble if we know about what is happening. Reporting also helps us to identify patterns that might arise– for example, if more than one victim reports having been assaulted or harassed by the same individual.

What will happen to a student if a teacher reports?

An employee from the Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity will reach out to you and offer support, resources, and information. You will be invited to meet with the employee to discuss the situation and the various options available to you.

If you have requested confidentiality, the University will weigh your request that no action be taken against the institution's obligation to provide a safe, nondiscriminatory environment for all students. If the University determines that it can maintain confidentiality, you must understand that the institution's ability to meaningfully investigate the incident and pursue disciplinary action, if warranted, may be limited. There are times when the University may not be able to honor a request for confidentiality because doing so would pose a risk to its ability to provide a safe, nondiscriminatory environment for everyone. If the University determines that it cannot maintain confidentiality, the University will advise you, prior to starting an investigation and, to the extent possible, will share information only with those responsible for handling the institution's response.

The University is committed to the well-being of all students and will take steps to protect all involved from retaliation or harm.

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/

THE UNIVERSITY OF MAINE

NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORM FOR GRADUATE COURSES

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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 Civil & Environmental Engineering

COURSE DESIGNATOR CIE COURSE NUMBER 555 EFFECTIVE SEMESTER Fall 2021

COURSE TITLE Computational Methods for Water Resource Engineering

REQUESTED ACTION

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

- [x] New Course
- [ ] New Course with Electronic Learning
- [ ] Experimental

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

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

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)

William G Dan 5/15/20

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

FTM

Digitally signed by Mohamd Musavi
DN: cn=Mohamd Musavi, o=University of Maine, ou=College of Engineering, email=musavi@maine.edu, c=US
Date: 2020.05.15 16:22:30 -04'00'

College Dean(s)

5/18/20

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):

CIE 555, Computational Methods for Water Resource Engineering, 3 credit hours
Prerequisites: MAT 258 or MAT 259 (Differential Equations) with a grade of B or above, CIE 350/351 (Hydraulics/Hydraulics Lab) with a grade of B or above, or permission from the instructor.

COURSE DESCRIPTION: Numerical treatment of problems in ordinary and partial differential equations with application to water resources engineering. Goal is to apply state of the art developments in computational fluid dynamics to the study of water resources engineering processes.

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:

Recommended:
Koutitas, C.G. and Scarlatos, P.D. (2015), Computational Modelling in Hydraulic and Coastal Engineering, Taylor & Francis, Oxford, UK.

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

Lauren Ross, Assistant Professor, Civil & Environmental Engineering, 2 courses fall and 1 course spring

Reason for new course:

Required skills in computational methods are becoming more and more prevalent for engineering positions, including Water Resources and Coastal Engineering professions. This course will provide UMaine Civil & Environmental Engineering graduate students focusing in Water Resources and Coastal Engineering with the skills and background needed to design, build, validate, run and analyze numerical models of natural and engineered systems. This course will benefit students in the 4+1 Master of Engineering (ME) in Water and Environment as well as MS and PhD students working under the supervision of several CIE faculty with research focused on water systems and processes.

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?

This course will be offered once every 2 years. This course will not result in overload salary payments.

University of Maine
Department of Civil Engineering
Fall Semester

CIE 555
Computational Methods for Water Resource Engineering
Instructor: Dr. Lauren Ross

SYLLABUS

CLASS MEETINGS: 1 day per week for 2h50

INSTRUCTOR INFORMATION:

Dr. Lauren Ross:	Department of Civil and Environmental Engineering
Office:	308 Boardman Hall
Office Hours:	come by my office anytime or schedule an appointment
Phone:	(207) 581 – 2088
E-Mail:	lauren.ross1@maine.edu

COURSE DESCRIPTION & GOAL: Numerical treatment of problems in ordinary and partial differential equations with application to water resources engineering. Goal is to apply state of the art developments in computational fluid dynamics to the study of water resources engineering processes.

RECOMMENDED TEXT:

Computational Modelling in Hydraulic and Coastal Engineering, Koutitas, C.G. and Scarlatos, P.D. (2015), Taylor & Francis, Oxford, UK.

PREREQUISITES: MAT 258 or MAT 259 (Differential Equations) with a grade of B or above, CIE 350/351 (Hydraulics/Hydraulics Lab) with a grade of B or above, or permission from the instructor.

TOPICS INCLUDE*:

1. ODEs & PDEs
2. Flow in pressurized conduits
3. Common partial differential equations of computational hydraulics
4. Free surface flows
5. Stratified flows
6. Flow in porous media
7. Surface gravity water waves
8. Contaminant and sediment transport
9. Saint-Venant Equations

*This is a list of all potential topics. The instructor reserves the right to choose topics covered at her discretion.

Course Schedule Disclaimer (Disruption Clause): In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), 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.

GRADING:

Homework	50%
Project	50%
	100%

HOMEWORK ASSIGNMENTS: A series of homework assignments will be given throughout the semester. **I will not accept late homework.** These assignments are integral to your understanding and retention of the information presented in this class. Take the homework assignments seriously. All data analysis must be done in MatLab. I encourage you to work together to complete homework assignments, but everyone must turn in their own work.

FINAL PROJECT: Each student will turn in a final project that will include a ~12 minute presentation and a final paper. The final project will be based on a numerical model built by the student throughout the semester in order to answer a pre-defined research question.

Final project presentations will be held the last week of class. The final paper must be formatted as a research paper (i.e., must include an abstract, introduction to the problem, including motivation, objectives, methods, results, discussion, conclusions, references, and relevant figures). The presentation should tell a logical story. Do not wait to start this, as it will take you longer than you think to finish. The final project report is due by 5pm on the Wednesday of Finals Week.

ATTENDANCE: Attendance will not be taken, but of course you are encouraged to attend class. If you choose not to attend class, it will difficult for you to succeed in the course.

MAKE-UP POLICY: Make-up assignments will be provided only in the case of a documented illness, emergency or other extraordinary situation.

ACCOMMODATION FOR DISABILITIES: Students requesting classroom accommodations can contact me or Ann Smith, Coordinator of Services for Students with Disabilities (Onward Building, 207-581-2319), as soon as possible.

HONOR: The Foundation of the Engineering Profession

Civil Engineering students must adhere to the University of Maine Conduct Code. Each student is expected to work independently on all exams, including take home exams. Students may neither give nor receive assistance on examinations. All written material, including homework, term papers, reports, etc., must be the student's original work. The bounds of original work and the degree of collaboration that will be allowed in this class will be established by the professor. The work(s) of others may only be used with proper reference or acknowledgement. Failure to adhere to this policy can result in the receipt of a failing grade, suspension or dismissal from the University. Group interaction is generally necessary for laboratory data gathering and is encouraged but not necessary for data reduction.

UMaine Honesty:

https://umaine.edu/studentlife/jad/academic-honesty-and-dishonesty/

UMaine Conduct Code:

https://umaine.edu/handbook/policies-regulations/student-conduct-code/

ASCE Code of Ethics:

http://www.asce.org/code-of-ethics/

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.

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/

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. Please see the University of Maine System's Academic Integrity Policy listed in the Board Policy Manual as Policy 314: https://www.maine.edu/board-of-trustees/policy-manual/section-314/

Students Accessibility Services 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. Lauren Ross) 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.

THE UNIVERSITY OF MAINE

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 Computer Science

COURSE DESIGNATOR COS COURSE NUMBER 530 EFFECTIVE SEMESTER Spring 2021

COURSE TITLE Introduction to Cybersecurity

REQUESTED ACTION

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

- [x] New Course
- [ ] New Course with Electronic Learning
- [ ] Experimental

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

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

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):

Theory and practice for cybersecurity. Topics include authentication, access control, cryptography, software and web security, security operations, risk and incident management, network security, legal, ethics and privacy issues and emerging technologies.

Computer science, COS530, Introduction to Cybersecurity

Prerequisite: COS331 or permission by instructor- 3 Credit Hours

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:

- Security in Computing – 5th Edition – Charles P. Pfleeger, Shari Lawrence Pfleeger, Jonathan Margulies – 2016.
- (optional) Computer Security: Principles and Practice – 4th Edition – William Stallings, Lawrie Brown – 2017.
- (optional) Cryptography and Network Security: Principles and Practice – 8th Eds –William Stallings, 2020.

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

Sepideh Ghanavati, Assistant Professor, 2 + 1

Reason for new course:

It is an important topic in computer science and we do not have any course that currently address these topics at the graduate level.

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.

N/A

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 a year - No overload salary paymenets

University of Maine
School of Computing and Information Science

Course Name: Introduction to Cybersecurity **Number:** COS 530 **Semester:** Spring 2021
Classroom: TBD **Class Hours:** TBD

Instructor: Sepideh Ghanavati Office: Boardman Hall 234 **Email:** sepideh.ghanavati@maine.edu
Instructor Office Hours: TBD

Catalogue Listing: Theory and practice for cybersecurity. Topics include authentication, access control, cryptography, software and web security, security operations, risk and incident management, network security, legal, ethics and privacy issues and emerging technologies.

Reading Materials (required): The main textbook of the course is:
Security in Computing – 5th Edition – Charles P. Pfleeger, Shari Lawrence Pfleeger, Jonathan Margulies – 2016.
Chapters to read will be mentioned every week, under the mandatory part.

Reading Materials (optional): The optional/complementary textbooks of the course are:
- Computer Security: Principles and Practice – 4th Edition – William Stallings, Lawrie Brown - 2017.
- Cryptography and Network Security: Principles and Practice – 8th Eds –William Stallings, 2020.

All other required reading lists will be provided in another document. The instructor will include the required reading material from the list at the end of each lecture presentation.

Course Prerequisites: COS 331.
Course Credit Hours: 3.

Expected prior knowledge and skills in: The successful student should have knowledge of Python and/or C programming and should be familiar with basic networking, operating system and database concepts.

Key Topics:

1. Authentication and Access Control
2. Introduction to Cryptography
3. Secure Software Development
4. Communication and Network Security
5. Security Operations
6. Risk and Incident Management
7. Legal Issues, Ethics and Privacy
8. Emerging Technologies

Course objectives:
The purpose of this course is to introduce advanced cybersecurity theories, methods, and tools. Upon successful completion of this course, students will be able to:

- Apply security principles and practices to the design, implementation, and operations of the physical, software, and human components of the system as appropriate to the program.
- Analyze and evaluate components and systems with respect to security and to maintaining operations in the presence of risks and threats
- Consider legal, regulatory, privacy, ethics, and human behavior topics as appropriate to the program.

More specifically students will be able to:

- State the basic concepts in information security, including security policies, security models, and security mechanisms.
- Explain concepts related to applied cryptography, including plain-text, cipher-text, the four techniques for crypto-analysis, symmetric cryptography, asymmetric cryptography, digital signature, message authentication, code, hash functions, and modes of encryption operations.
- Explain the concepts of malicious code, including viruses, Trojan horses, and worms.
- Explain common vulnerabilities in computer programs, including buffer overflow vulnerabilities, time-of-check to time-of-use flaws, incomplete mediation.
- Outline the requirements and mechanisms for identification and authentication.
- Explain issues about password authentication, including dictionary attacks (password guessing attacks), password management policies, and one-time password mechanisms.
- Explain and compare security mechanisms for conventional operating systems, including memory, time, file, object protection requirements and techniques and protection in contemporary operating systems.
- Explain the requirements for trusted operating systems, and describe the independent evaluation, including evaluation criteria and evaluation process.
- Describe security requirements for database security, and describe techniques for ensuring database reliability and integrity, secrecy, inference control, and multi-level databases.
- Describe threats to networks, and explain techniques for ensuring network security, including encryption, authentication, firewalls, and intrusion detection.
- Explain the requirements and techniques for security management, including security policies, risk analysis, and physical threats and controls.

Learning Outcomes & Assessment Methods:
Students who have completed this course should have the ability to:

Objectives	ABET Outcomes	Assessment Methods
1. Understand security principles and practices.	1	CP, D, A, TP, Q
2. Analyze and evaluate components and systems with respect to security principles and practices.	1	CP, D, A, TP, Q
3. Perform risk and threat assessment.	1	CP, D, A, TP, Q
4. Understand legal, regulatory, privacy and ethical topics.	4	CP, D, A, TP, Q
5. Working Effectively in teams.	5	TP

Activities and Evaluation:
Students' performance will be evaluated based on class participation/discussions, assignments and a project.

- Lectures – There will be 150 minutes of lectures every week, Tuesdays and Thursdays, in which students will learn about topics in cybersecurity.
- Readings – Students will be assigned readings from the course textbook or academic papers to learn techniques, principles and concepts related to cybersecurity.
- **(CP) – Discussions, Discussion Forum and Class Participations (10%)** – Students reflect on reading materials and discussions in the class as well as on the discussion forum. We discuss different subjects related to the course in class and the participation is required. In addition, students must assess and give feedback on other students' projects. Discussions are **individual** assessments.
- **(D) – Discussant Activity (15%)** – Each student(s) will select one of the course topics and act as a discussant on the day that that the topic will be taught in class based on the syllabus. The discussant will review relevant papers and book chapters related to the topic before the session and will open up the session by presenting some of the challenges identified in those papers to the class. The presentation should take at least 30 minutes (Students can choose to present the material for the

entire class time). The discussant is also responsible for answering students' questions. This assessment can be done either **individually** or in a **group of two**.
Graduate students must complete this activity individually.

- **(A) – Assignments (40%)** – Students have 5 take-home assignments and case studies during the semester whereby students apply methods taught in class to sample problems. All assignments are **individual** efforts.
  Graduate students must complete all of the five assignments.
  For undergraduate the best four out of five will be counted.
- **(TP) – Term Project (40%)** – Students will work in **a group of 2 or 3 students** on a project defined by the instructor. The project must be approved by the instructor by the deadline specified below. The aim of these projects is to understand security concepts and principles, analyze and evaluate security threats and vulnerabilities and provide solutions for them. The students will need to write several reports for the project and present their results in class. The detail of the project is given in another document.
- **Attendance Policy** – Students are allowed to have 4 free absences (whether excused or not). More than 4 absences will be penalized. The 5th missed class will have 2 marks (2%) deduction of the overall final grade. After that, each absence, except on the days of students' presentations, will count as 1% deduction of the overall final grade. For example, if your total mark at the end of the semester is 90% and you have missed 5 classes, your final mark will be 88%. On the days of students' presentations, each absence, unless having a valid excuse, will have 3% deduction of the overall final grade, regardless of having any free absence left. If a student comes late to their own presentation, the presentation's mark will be deducted by 20% for that specific student. Note that, if the students show up more than 15 minutes later than the start of the class (i.e. after 8:15AM), they will also be marked as absent. More details are given in the section, Class Attendance, below.
- **Note that, the total of possible mark in this class is 105 which includes 5% bonus mark.**

Grading Policy:
The grading scale for the final mark is as follows:

Letter Grades	Numerical Range	Letter Grades	Numerical Range
A	94 – 100	C	74 – 76.99
A-	90 – 93.99	C-	70 – 73.99
B+	87 – 89.99	D+	67 – 69.99
B	84 – 86.99	D	64 – 66.99
B-	80 – 83.99	D-	60 – 63.99
C+	77 – 79.99	F	0 – 59.99

This scale may be curved to raise student grades at the instructor's discretion.

- Submitted work is due when specified. With the instructor's permission, you may be able to submit 1-3 days late (with a penalty). For every 12 hours of late submission, 5% marks will be deducted. That is, if you are late by 3 full days, 30% mark will be deducted. After the 3rd full day, your assignment, project and reports will be marked as 0, **with no exceptions.**
- Every submission has to be done through Brightspace in a digital format. Submissions via email or in person will be marked as 0. If you encounter any problems with Brightspace, it is your own duty to inform the instructor **in a timely manner, before the due date**. Brightspace problems can't be used as an excuse for late submission.

Course Schedule: The table (below) provides the initial distribution of topics discussed over the weeks in the semester. **This schedule is tentative and subject to change during the semester at the instruction discretion.** All changes will be announced in class or on the course website (Brightspace). Students are responsible for making sure they are informed about announcements.

Week	Class (TTH)	Activity	Material
1	01/21 01/23 01/24	L0 L1 -	Syllabus and Introduction Introduction to Computer Security **Group Selection (Due Date)**
2	01/28 01/30	L2 L3	Introduction to Computer Security – **Assignment 1 (Posted)** Authentication, Password and Access Control
3	02/04 02/06	L4 L5	Authentication, Password & Access Control – **Discussant Topic (Due Date)** Introduction to Cryptography – **Deliverable 0 (Due Date)**
4	02/11 02/13	L6 L7	Introduction to Cryptography – **Assignment 1(Due Date)** Software Security and Malicious Software – **Assignment 2 (Posted)**
5	02/18 02/20 02/21	L8 L9 -	Software Security and Malicious Software Software Security and Malicious Software **Deliverable 1 (Due Date)**
6	02/25 02/27	L10 L11	Web-User Security – **Assignment 3 (Posted)** Web-User Security – **Assignment 2 (Due Date)**
7	03/03 03/05	L12 L13	Security in OS Security in OS
8	03/10 03/12 03/14	L14 L15 -	Network Security – **Deliverable 2 (Due Date)** Network Security – **Assignment 4 (Posted)** **Assignment 3 (Due Date)**
9	03/16 03/22	-	Spring Break
10	03/24 03/26 03/27	L16 L17 -	Network Security Guest Lecture – From GitHub **Deliverable 3 (Due Date)**
11	03/31 04/02	L18 L19	Database Security – **Assignment 4 (Due Date)** Database Security – **Assignment 5 (Posted)**
12	04/07 04/09	L20 L21	Privacy and Anonymity Security Risk Management
13	04/14 04/16	L22 L23	Emerging Topics Overview – IoT and Cloud Emerging Topics Overview – Blockchain – **Deliverable 4 (Due Date)**
14	04/21 04/23 04/26	L24 P1 -	Security Risk Management & Legal Issues and Ethics Students Presentation **Assignment 5 (Due Date)**
15	04/28 04/30	P2 P3	Students Presentation Students Presentation

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Course Schedule Disclaimer (Disruption Clause):
In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), 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.

UMaine Student Code of Conduct:
All students are expected to conform to the UMaine Student Code of Conduct.

Classroom Civility:
Civility should be conveyed to all others through courteous expression, politeness, esteem and regard for others, and a general respect for others, regardless of differences from self.

Inclusive and Non-Sexist Language:
The University of Maine, as an equal opportunity educational institution, is committed to both academic freedom and the fair treatment of all individuals. It therefore discourages the use of sexist language. Language that reinforces sexism can arise from imprecise word choices that may be interpreted as biased, discriminatory, or demeaning even if they are not intended to be. Accordingly, all University communications, whether delivered orally or in writing, shall be free of sexist language.

This policy shall apply to all future University publications, whether produced through Public Affairs or elsewhere, that are intended for distribution to students, parents, faculty, staff, or other people interested in the University of Maine. University publications shall include, but not necessarily be limited to: University printing office publications; promotional materials distributed by all units of the University both academic and nonacademic; and policy booklets prepared for students and faculty. Inventory on hand of existing publications may be used until exhausted or a publication is revised.

Each member of the University community is urged to be sensitive to the impact of language and to make a personal commitment to eliminate sexist language. Supervisory personnel have a particular responsibility to discuss this policy with faculty and staff and to make available to them guidelines on nonsexist language. Guidelines of the American Psychological Association on the use of nonsexist language provide direction and are recommended because they are brief and list examples, but others may be used. Consult the Communications and Marketing Department or Women's Gender and Sexuality Studies Program for alternatives (https://umaine.edu/womensgenderandsexualitystudies/).

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 **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/

Copyright Notice for Materials Accessible through this Website
Most materials accessible through this site, such as linked articles, should be assumed to be copyright protected.

1. Unless the "fair use" provisions of copyright law apply or language is contained in a work permitting its use, permission should be obtained from the copyright holder for copying the work.
2. Use of the instructor prepared web pages and the slides affiliated with each lecture on the syllabus may be assumed to be controlled by the University of Maine System Broad Application Copyleft License (proposed, current, or future) or through a similar license that may be posted at the bottom of each web page.
3. All class videos (lectures) should be assumed to be copyright protected in accordance with the University of Maine System Statement of Policy Governing Patents and Copyrights.

Contingency Plans in the Event of an Epidemic:
In the event of an influenza or similar epidemic that precludes the ability to meet in face-to-face sessions, assume that the instructor will either (1) host the course on our usual ConnectPro url for the class at the normal time and everyone will participate at a distance or (2) record a video of the lecture I would have otherwise presented in person and post it for viewing by downloading from the syllabus and/or from a web streaming video site (example: recorded on ConnectPro or recorded and then posted on the Spatial

Information Science and Engineering YouTube Channel). All other reading and module assignments should proceed as usual. If you yourself become sick, simply inform the instructor and the instructor will arrange appropriate extensions based on your particular circumstances.

Additional References:

Recommended Readings:

[1] Ross Anderson, Security Engineering: A Guide to Building Dependable Distributed Systems. Wiley, 2008.

[2] Mathias Payer, Software Security: Principles, Policies, and Protection (SS3P), In SS3P'18: Open Textbook, 2018.

Additional Resources:

[1] Julia H. Allen, Sean Barnum, Robert J. Ellison, Gary McGraw, and Nancy Mead, Software Security Engineering: A Guide for Project Managers by. Addison-Wesley, ISBN 978-0-32-150917-8

[2] Steven Bellovin. Thinking Security: Stopping Next Year's Hackers (Addison- Wesley Professional Computing Series). Addison-Wesley Professional, 2015.

[3] Toby Fulwiler and Alan R. Hayakawa. The Blair Handbook: 2009 MLA Update Edition. 5th. Longman, 2009. ISBN: 978-0205735594.

[4] David Kahn, The Codebreakers: The Comprehensive History of Secret Communication from Ancient Times to the Internet. Scribner, 1996.

[5] Steven Levy, Crypto: How the Code Rebels Beat the Government Saving Privacy in the Digital Age. Penguin Press Science, 2001. ISBN: 978-0140244328.

[6] Gary McGraw, Software Security: Building Security In. Addison-Wesley Professional, 2006.

[7] Bruce Schneier, Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World. W. W. Norton, 2015.

[8] Bruce Schneier, Secrets and Lies: Digital Security in a Networked World, Wiley, 2004.

[9] Simon Singh, The Code Book. Anchor, 2000. ISBN: 978-0385495325.

[10] Edward Skoudis and Tom Liston, Counter Hack Reloaded: A Step-by-Step Guide to Computer Attacks and Effective Defenses (2nd Edition). Prentice Hall, 2006.

[11] Clifford Stoll, The Cuckoo's Egg: Tracking a Spy Through the Maze of Computer Espionage. Pocket Books, 2005.

[12] William Strunk Jr. and E. B. White, The Elements of Style. 4th. Longman, 1999. ISBN: 978-0205309023.

[13] Dafydd Stuttard & Marcus Pinto, The Web Application Hacker's Handbook: Finding and Exploiting Security Flaws, Wiley, September 2011. ISBN: 1118026470 / 978-1118026472.

[14] William Zinsser, On Writing Well: The Classic Guide to Writing Nonfiction. 30th Anniversary Edition. Harper Perennial, 2006. ISBN: 978-0060891541.

THE UNIVERSITY OF MAINE

NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORM FOR GRADUATE COURSES

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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 Food Science and Human Nutrition

COURSE DESIGNATOR FSN COURSE NUMBER 575 EFFECTIVE SEMESTER S 2021

COURSE TITLE Sensory Evaluation Laboratory

REQUESTED ACTION

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

- [x] New Course
- [ ] New Course with Electronic Learning
- [ ] Experimental

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

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

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)

Robert Causey Digitally signed by Robert Causey Date: 2020.09.30 14:25:03 -04'00'

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

College Dean(s)

Christopher Gerbi Digitally signed by Christopher Gerbi Date: 2020.10.13 06:08:25 -04'00'

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):

FSN 575 Sensory Evaluation Laboratory
A laboratory that provides training in the selection, design, execution, and analysis of sensory and consumer science experiments. Training in sensory science-specific software and execution of web-based surveys and focus groups. FSN 475 and FSN 575 may not be both taken for credit.
Corequisite: FSN 585
Credit hours: 1 Lab 3 hr

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:

Laboratory exercises for sensory evaluation. Harry Lawless, 2013. New York : Springer. (Ebook at Fogler)
Sensory Evaluation Techniques. Morten C. Meilgaard, Gail Vance Civille, B. Thomas Carr. 2016. CRC Press. (Ebook at Fogler)

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

Mary Ellen Camire, Professor of Food Science and Human Nutrition

Reason for new course:

Students have requested more course content in sensory science, so the laboratory portion of FSN 585 Sensory Evaluation I will be offered as a separate one-credit laboratory 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.

None. This is a unique topic.

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?

Spring of odd years. This course will be part of the instructor's regular 25% teaching load.

FSN 475/575 Sensory Evaluation Laboratory

Course Information

A laboratory that provides training in the selection, design, execution, and analysis of sensory and consumer science experiments. Training in sensory science-specific software and execution of web-based surveys and focus groups. FSN 475 and FSN 575 may not be both taken for credit.

1 credit hour

Location: Hitchner 158 and 159, day and time to be determined

Corequisite: FSN 585 Principles of Sensory Evaluation

Course Delivery Method

In-Person

Time Options: 150-minute periods

Students should have access to a windows-based (preferred) or Apple IOS computer. Microsoft Office, JMP, and SPSS software may be downloaded from the University's Department of Information Technology (https://umaine.edu/it/software/). We have a limited number of licenses for SIMS sensory software. Tablet computers loaded with these licenses will be provided for you to use during class. They may not be checked out for use at other times. Qualtrics software will be used to create and analyze surveys.

The Brightspace Learning Management System will be used for student assignment submissions and to link to recommended readings and other items of information.

Faculty Information

Name: Dr. Mary Ellen Camire (pronounced kah-meer-ee)

Phone number: 207.581-1627

Email address: camire@maine.edu (Email sent to mary.camire@maine.edu does not reach me.)

Faculty website: https://umaine.edu/foodandagriculture/camire2/

Office hours: Tuesdays 3:00-4:30 or by appointment. Please email me to schedule a date and time.

Instructional Materials:

Sensory Evaluation Techniques, 5th ed. by Meilgaard, Civille & Carr. ISBN 9781482216905. Other editions of the book cannot be used. The Fogler Library subscription only allows one student to use the e-book at a time.

The field of sensory science is rapidly evolving. Fogler Library maintains subscriptions to key sensory science journals such as the Journal of Food Science, Journal of Sensory Science, Food Quality and Preference, and Appetite. Links to interesting articles will be placed on Brightspace.

Course Goals: Students will understand the selection, design, execution, and analysis of sensory evaluation testing.

Instructional Objectives:

• Students know how to reduce potential for bias and error during testing

• Students develop competency in test selection and analysis.

• Students appreciate the importance of teamwork to accomplish common goals.

Student Learning Outcomes:

• After completion of the course, students will be able to use SIMS and statistical software programs to statistically analyze data and solve practical problems.

• Appreciate the legal and moral aspects of testing human subjects and working with proprietary information.

• Apply knowledge to solve quality assurance and product development situations and problems.

• Demonstrate skills working with others to accomplish mutual goals on a realistic timeline.

• Utilize technical information to prepare oral and written reports.

• Create reports that not only identify problems and report test results, but that make thoughtful recommendations for future actions.

Grading and Course Expectations:

Components of final course grade:

Sensory test lab reports: 4 @25 points each

Color scale report: 1 @ 10 points

Set -up of sensory test in SIMs software: 2 @ 20 points each

Group test design, execution, and oral presentation: 1 @ 50 points

Video review of recent sensory science paper (graduate students only): 1 @ 25 points

Course grading scale (based on 200 points, undergraduate and 225, graduate students):

Letter grade	Undergraduate Points	Graduate Points	Letter	Undergraduate Points	Graduate Points
A	≥ 186	≥ 212	C	146-153	164-172
A-	180-185	202-211	C-	140-145	157-163
B+	174-179	196-201	D+	134-139	150-156

B	166-173	187-195	D	126-133	142-149
B-	160-165	180-187	D-	120-125	135-141
C+	154-159	173-179	F	<120	<135

Course Schedule:

Meeting location: Hitchner 159. Days and times to be determined.

Week	Topics	Associated reading	Assignments	Assignment due date*	Points
1/25	Area-specific safety training, prevention of foodborne and other illnesses during testing, human subjects' protection	CITI training and Office of Research Compliance Human Subjects website	none		
2/1	Perception exercises		none		
2/8	Color scaling exercise		Individual report	2/19	10
2/15	Introduction to SIMS software		none		
2/22	Baked potato hedonic evaluation		Individual report	3/12	25
3/1	Hedonic test design and analysis in SIMS software	SIMS website	Individual creation of a questionnaire, experiment design, test design, and test execution in SIMS	3/5	20
3/8	Baked potato evaluation		Individual report	3/19	25
3/15	Overall difference test execution	Textbook Ch. 6 &7	Individual report	4/2	25
3/22	Overall and directional difference in SIMS	SIMS website	Individual creation of a questionnaire, experiment design, test design, and test execution in SIMS for a triangle test and paired preference test	3/26	20
3/29	Introduction to descriptive analysis		none		
4/5	Survey creation and analysis		Survey creation, distribution, and analysis report (student pairs)	4/23	25
4/12	Correlation group project				
4/19	Correlation group project				

4/26	Correlation project presentations		Group oral presentation	4/30	50

* Due in Brightspace by 10 p.m.

Graduate students will post a video critique of a recently-published research paper using sensory science

There is not a final exam in this course. No work will be accepted after May 2.

Course Policies

Students should complete the CITI training for social and behavioral research with human subjects by February 1, 2021. Completion of the University's Responsible Conduct of Research (RCR) training is also required. You will be notified when the training will be held by the University. If you have already completed the RCR training, you do not have to take it again.

Please be on time for class and email Dr. Camire if you cannot attend. Class attendance and class participation are required, but please do not come to class if you feel ill.

Please do not text, email or use your cell phone during class. Students who do not respect this policy will be asked to leave the classroom and subsequently miss in-class assignments.

If you must miss a laboratory that involves a graded SIMS assignment, schedule an appointment to make up that work. Missed labs with sensory test report assignments can be made-up with participation in a research project with advance permission. Research projects are not scheduled on a regularly basis, however.

Late or incomplete work will be penalized by 10% and will not be accepted more than one week after the due date.

Please do not wear perfume, cologne, body spray or other fragranced products, or come to class directly from vigorous exercise without showering first. Students wearing fragranced products or who have strong body odor will be asked to leave class. Hitchner Hall is a fragrance-free building.

Please wear a clean lab coat when you are working on tests. Lab coats will not be provided for you.

Gloves, and covers for hair and beards will be provided for exercises in which you serve food. Please do not consume coffee or food with an hour of class time when we are having demonstration exercises or sensory tests.

If you smoke, please refrain from smoking for at least 180 minutes before a demonstration or test because the smoke may cling to your body and clothing.

Students are expected to evaluate foods during class exercises. If you have any food allergies or dislikes, please inform Dr. Camire no later than February 1. Shellfish and meat will not be served during class exercises.

Everyone is expected to display professional behavior and treat fellow students and sensory test participants with respect. Please do not use foul or rude language during class.

Students will be assigned to different groups for projects during the semester to help you get to know your classmates and to minimize the likelihood of having to work repeatedly with another student who may not contribute their fair share.

No extra credit will be offered in this class.

Campus Policies

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.

Please see the University of Maine System's Academic Integrity Policy listed in the Board Policy Manual as Policy 314: https://www.maine.edu/board-of-trustees/policy-manual/section-314/

Students Accessibility Services 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 (Mary Ellen Camire) privately as soon as possible.

Course Schedule Disclaimer (Disruption Clause): In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), 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.

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 Title IX Student Services 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: Title IX Student Services: 207-581-1406, Office of Community Standards: 207-581-1409, University of Maine Police: 207-581-4040 or 911. Or see the Title IX Student Services website for a complete list of services.

COVID-19 Statement:

COVID-19 is an infectious disease caused by the coronavirus SARS-CoV-2. The virus is transmitted person-to-person through respiratory droplets that are expelled when breathing, talking, eating, coughing, or sneezing. Additionally, the virus is stable on surfaces and can be transmitted when someone touches a contaminated surface and transfers the virus to their nose or mouth. When someone becomes infected with COVID-19 they may either have no symptoms or symptoms that range from mild to severe and can even be fatal. During this global pandemic, it is imperative that all students, faculty, and staff abide by the safety protocols and guidelines set forth by the University to ensure the safety of our campus. All students are encouraged to make the Black Bear Cares Pact to protect the health of themselves, the health of others, and the College of Our Hearts Always.

Black Bears Care Pact: https://umaine.edu/return/black-bears-care/

Symptom checking: The symptoms of COVID-19 can range from mild to severe, and even people with mild symptoms may transmit the virus to others. Students are encouraged to use the symptom checking app each day before attending class or moving about campus and follow the recommendation prompted within the app. Students should monitor for the following symptoms daily: fever (temperature >100.4F/38.0C) or chills, new cough, loss of taste or smell, shortness of breath/difficult breathing, sore throat, diarrhea, nausea, or vomiting, or the onset of new, otherwise unexplained symptoms such as headache, muscle or body aches, fatigue, or congestion/runny nose.

Physical distancing: Students need to make every effort to maintain physical distancing (6 feet or more) indoors and outdoors including within classrooms. The University classrooms and physical spaces have been arranged to maximize physical distancing. Follow the traffic patterns outlined in each building and outdoor space to avoid crowding. If students are in an academic setting (i.e. clinical or lab class) that requires them to reduce physical distancing, they should follow the instructor's guidelines.

Face coverings: Students must wear appropriate face coverings in the classroom. Face coverings must be worn in indoor and outdoor spaces on campus unless people are alone in a room with a door closed or when they are properly physically distanced and do not expect someone to approach them. When face coverings are removed people are placing themselves and those surrounding them at increased risk for COVID-19.

Eating and drinking in classrooms: Students may not eat or drink in the classrooms and are encouraged to take their food or drink into areas designated for these purposes where they can maintain 6 feet physical distance from others.

Hand hygiene: Proper hand hygiene is an effective measure to prevent the spread of COVID-19. Students should wash their hands often with soap and water or use a hand sanitizer with at least 60% alcohol, especially after using the bathroom, before eating or drinking, and before and after going to class or university spaces such as the recreation center, library, or dining halls.

Contingency plans: Classes will be held in various formats to offer flexibility, compassion, and empathy during these unprecedented times. Under certain circumstances, students or instructors may need to miss classes or in-person classes may be disrupted. Students are expected to notify their instructor if they are unable to attend an in-person or online class but will not be penalized for missing class due to illness or the need to care for a family member affected by COVID-19. If a disruption occurs, your instructor will provide communication and contingency plans.

What to do if you have or suspect you have COVID-19: If you have symptoms of COVID-19 or have been possibly exposed to someone with COVID-19, you should stay home, not interact with others, and contact your health care provider immediately to be tested for COVID-19. You may not attend in-person classes and should suspend interactions with others until you are tested. Prior to receiving test results you should quarantine in your living area according to the Maine CDC guidelines below. Please follow the guidance of your health care professional regarding testing, quarantine, and isolation during the testing process and potential illness period.

What to do if someone you know has or may have COVID-19: If someone you know or that you have had close contact with (defined by the ME CDC as 15 mins or more within 6 feet or less) has tested positive for COVID-19, you should stay home and quarantine according to the guidance of the ME CDC, contact your health care provider, and continue to monitor for symptoms. You may be required to quarantine and/or be tested for COVID-19 under these circumstances. You may also have been exposed to COVID-19 by someone you do not know, and it is possible that you could be contacted through contact tracing to determine if you were exposed. Everyone should respond to these confidential questions to ensure the safety of themselves and those around them.

Maine CDC guidelines: https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/coronavirus/general-information.shtml

If you have questions or would like additional information related to the University of Maine COVID-19-specific policies or procedures please use the following sources:

University Webpages: umaine.edu/return and together.maine.edu

COVID-19 Information line: 207.581.2681

Emergency Operations Center Email Contact: umaine.alerts@maine.edu

Appendix 1. Sensory evaluation report elements (Check spelling and grammar and be succinct)

1. Summary - like an abstract (2 points)
2. What were the project and test objectives? Include the hypothesis. (3 points)
3. What was done? (Procedures) (12 points)
    a. date and times of test
    b. experimental design
        i. number of samples
        ii. replication
        iii. balanced presentation ?
        iv. blocking
    c. sensory methods
        i. test type(s)
        ii. demographic or purchase intent questions
    d. panel details
        i. # of panelists
        ii. recruitment method
        iii. source: employees vs consumers
        iv. recruitment criteria
        v. demographics
        vi. age, sex, income, occupation, etc.
        vii. training
    e. sample presentation
        i. individual or group evaluation
        ii. paper, verbal or computer ballot

iii. lighting

iv. sample quantity

v. container type and size

vi. order and coding

vii. special instructions about rinsing, time effects

f. statistical analyses including probability value

4. What were results? Include statistics. (4 points)

   a. Provide results in a table or in a graph, but not both.

   b. Show means and standard deviations for interval data.

   c. Compare results with related tests or studies published in the literature.

   d. Provide suggestions to explain why the results came out that way.

5. What are conclusions? (2 points)

   a. Briefly summarize findings.

   b. Recommend next steps.

6. References (2 points)

   a. Use the organization's preferred reference style.

   b. IFT's journals use the American Psychological Association's style for citations.

   c. Cite appropriate ASTM or ISO methods.

   d. Do not rely on citing a textbook.

Appendix 2. Color scale report (10 points)

Which types of scale were used? (3 points)

What were the advantages and drawbacks of each scale type? (6 points)

Which scale would you recommend for use with young adults in a university setting? (1 point)

Appendix 3. SIMS hedonic test set up rubric (20 points)

Create a questionnaire, experimental design, test design and test execution in SIMS for three samples *and 48 panelists. The three samples are different brands of orange soda. This assignment must be* completed during class lab time and you may not ask others for help.

Areas	Tasks	Meets criteria	Somewhat meets criteria	Does not meet criteria
Questionnaire (10 points)	Creation of instruction box and demographic questions (age, gender and frequency of product consumption)	Questions are easy to understand, spelled and punctuated correctly. Questionnaire items are aligned with specific samples to prevent questions from appearing with every sample. (4)	Questions are easy to understand, spelled and punctuated correctly, with just one error. One questionnaire item is aligned with wrong samples, but the rest are correct. (2-3)	Missing questions; mis-spellings; grammar errors; all-that-apply questions used when single answers are needed; questions appear with every sample instead of just one. (0)
	Creation of 9-point hedonic scales for appearance, flavor, texture, and overall liking plus comment box	Questions spelled correctly and ordered from dislike to like for every sample. (2)	Questions may be spelled incorrectly, hard to understand, or and ordered backwards. Questions may appear with only one sample instead of all as required. (1)	Spelling and/or grammatical mistakes; use of scales other than 9-point hedonic scale; missing required questions; questions not appearing with all samples. (0)
	Instructions for ending test	Spelled correctly and worded clearly. Appears only after last sample is evaluated. (2)	One spelling or grammar mistake. (1)	Spelled correctly and worded clearly. Appears only after last sample is evaluated. (0)
	Overall design	Clear, attractive, easy to read (2)	Some inconsistencies in style and color use (1)	Different font styles; font too small or too large; and/or excessive use of colors.

				(0)
Areas	Tasks	Meets criteria	Somewhat meets criteria	Does not meet criteria
Experimental Design (5 points)	Basic test description	Name, description, # panelists, product category (1)	Missing one piece of information (0.5)	Missing > 1 item (0)
	# samples & reps	3 samples and 1 rep selected (1)	-	Incorrect number of samples or reps (0)
	Sample information	Codes, clear sample description, same blinding code for all panelists (2)	Missing description but other details correct (1)	Samples not clearly described, blinding codes different for each sample and subject (0)
	Plan description	# samples, blocks, complete block design, block & sample randomization (not as in plan), saved (1)	-	Samples not randomly presented (0)
Test Definition (4 points)	Code and description	Correct questionnaire and design codes (1)	-	Name chosen that does not agree with questionnaire and design coding (0)
	Panel type	Select all possible (1)	-	Only anonymous panelists chosen (0)
	Design code	Affective chosen (1)	-	Descriptive or discrimination test selected (0)
	Rotation plan	Verified balanced and random presentation (1)	-	Sample order presentation not balanced or not randomized (0)
Test Execution (1 point)	Execution code	Code chosen to be the same as other codes for the test and saved (1)	-	Other name chosen for code so that test does not automatically load. Execution not saved. (0)
	Room selection	Affective room and Save Result Data selected (0)	-	Test executed at workstation or in a descriptive or discrimination virtual room. Save Data not chosen. (0)
	Prompts	No prompts	-	Sample code and/or

		selected. (0)		sample set prompts selected. (0)

Appendix 4. SIMS difference test set up rubric (20 points)

Create a questionnaire, experimental design, test design and test execution in SIMS for two samples *and 36 panelists. The samples different in sweetness. This assignment must be* completed during class lab time and you may not ask others for help.

Areas	Tasks	Meets criteria	Somewhat meets criteria	Does not meet criteria
Questionnaire (10 points)	Creation of instruction box and demographic questions (age, gender and frequency of product consumption)	Questions are easy to understand, spelled and punctuated correctly. Questionnaire items are aligned with specific samples to prevent questions from appearing with every sample. (4)	Questions are easy to understand, spelled and punctuated correctly, with just one error. One questionnaire item is aligned with wrong samples, but the rest are correct. (2-3)	Missing questions; mis-spellings; grammar errors; all-that-apply questions used when single answers are needed; questions appear with every sample instead of just one. (0)
	Creation of paired preference question for sweetness preference	Questions spelled correctly. (2)	Questions may be spelled incorrectly, hard to understand, or and ordered backwards. (1)	Spelling and/or grammatical mistakes; use of other scales (0)
	Instructions for ending test	Spelled correctly and worded clearly. Appears only after last sample is evaluated. (2)	One spelling or grammar mistake. (1)	Spelled correctly and worded clearly. Appears only after last sample is evaluated. (0)
	Overall design	Clear, attractive, easy to read (2)	Some inconsistencies in style and color use (1)	Different font styles; font too small or too large; and/or excessive use of colors. (0)
Areas	Tasks	Meets criteria	Somewhat	Does not meet

			meets criteria	criteria
Experimental Design (5 points)	Basic test description	Name, description, # panelists, product category (1)	Missing one piece of information (0.5)	Missing > 1 item (0)
	# samples & reps	2 samples and 1 rep selected (1)	-	Incorrect number of samples or reps (0)
	Sample information	Codes, clear sample description, same blinding code for all panelists (2)	Missing description but other details correct (1)	Samples not clearly described, blinding codes different for each sample and subject (0)
	Plan description	# samples, blocks, complete block design, block & sample randomization (not as in plan), saved (1)	-	Samples not randomly presented (0)
Test Definition (4 points)	Code and description	Correct questionnaire and design codes (1)	-	Name chosen that does not agree with questionnaire and design coding (0)
	Panel type	Select all possible (1)	-	Only anonymous panelists chosen (0)
	Design code	Discrimination chosen (1)	-	Descriptive or affective test selected (0)
	Rotation plan	Verified balanced and random presentation (1)	-	Sample order presentation not balanced or not randomized (0)
Test Execution (1 point)	Execution code	Code chosen to be the same as other codes for the test and saved (1)	-	Other name chosen for code so that test does not automatically load. Execution not saved. (0)
	Room selection	Discrimination room and Save Result Data selected (0)	-	Test executed at workstation or in a descriptive or affective virtual room. Save Data not chosen. (0)
	Prompts	No prompts selected. (0)	-	Sample code and/or sample set prompts selected. (0)

Appendix 5. Group Project Requirements (50 points)

Select a research question and design an affective sensory test to answer that question. Overall difference tests such as triangle tests cannot be used for this project. Examples of suitable projects include acceptance of different stevia concentrations in iced tea; does replacing fat with varying levels of applesauce affect acceptability? Select one or more instruments whose results can be correlated with sensory liking. Examples of objective instrumental measures include color, texture, and refractometer readings.

Element	Criteria for acceptable grade	Possible points
IRB application sent to Dr. Camire 2 days before recruitment begins	Contains all elements required by IRB especially inclusion criteria; spelling correct; informed consent at 8th grade or lower reading level	5
Budget (due 1 day after IRB application approved)	Itemized budget to be approved in advance, including incentives	5
Recruitment	Target number of panelists is reached ± 5 persons without running around Hitchner to drag people in.	5
Research hypothesis & test objective	Suitable explanation	5
Correct set-up of test in SIMS	Correct spelling and appearance of items with correct sample; informative sample labeling in experimental design	5
Test execution	Cups/ plates labeled in advance; correct samples served; no excessive wait times for participants; test ended	5
Test analysis	Statistics performed in SIMS; comments summarized	5
Oral presentation on May 4 during recitation	PowerPoint presentation involving all group members speaking; presentation 12-15 minutes long sent to Dr. Camire no later than 9 a.m. the morning of the lab session.	15

THE UNIVERSITY OF MAINE

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 Nursing

COURSE DESIGNATOR NUR COURSE NUMBER 675 EFFECTIVE SEMESTER spring2021

COURSE TITLE Philosophical Foundations and Ethical Decision Making Frameworks for Advanced Practice Nursing

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

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)

Patricia Poirier Digitally signed by Patricia Poirier
DN: cn=Patricia Poirier, o, ou=University of Maine, email=patricia.poirier@maine.edu, c=US
Date: 2020.10.08 11:41:08 -04'00'

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

College Dean(s)

Christopher Gerbi Digitally signed by Christopher Gerbi
Date: 2020.10.15 06:51:10 -04'00'

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):

NUR 675 Philosophical Foundations and Ethical Decision Making Frameworks for Advanced Practice Nursing
Prerequisites : Undergraduate/graduate course work in philosophy, ethics, science and social science preferred; Graduate standing or consent of instructor
Credits: 3
This course constitutes an exploration of logical and epistemological foundations of empirical science. This course engages students in a reflective and dialogical process that utilizes theory to guide structuring of nursing knowledge and the philosophical underpinnings of advanced nursing practice, leadership, and practice inquiry. Ethical decision-making frameworks and relevant research findings will be used to promote the development of application skills for clinical practice.

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:

Dahnke, M.D. & Dreher, H.M. (2016). Philosophy of science for nursing practice: Concepts and applications (2nd ed). Springer: New York. ISBN: 978-0-8261-2928-4 (paperback)

Hoffman, W.M., Fredrick, R.E. & Schwartz, M.S. (Eds.) (2014). Business ethics: Readings and cases in corporate morality. Wiley: Oxford. ISBN: 978-1118336687 (paperback)

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

Mary K. Walker, PhD, RN, FAAN
Professor of Nursing
Will be part of spring workload

Reason for new course:

Currently students in the MS-Nursing Education track and Individualized MS-Nursing are required to take NUR 693- Ethics. Students in the MS-FNP track are encouraged to take ethics for their nursing elective. This course as proposed provides a broader base in ethics and overall philosophy of nursing appropriate for all students. This course can be used as an alternative to NUR 694 for MS-Nursing students. In addition, it may be used in the IPhD program to meet required courses in philosophy of science or theory development. Neither of these courses are available in the UMaine system thus students need to take them at outside institutions.

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.

None

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?

Will be offer annually in the Spring. Will be part of graduate faculty teaching workload

NURS 675 Philosophical Foundations and Ethical Decision-making Frameworks for Advanced Practice

Course Description
This course constitutes an exploration of logical and epistemological foundations of empirical science. This course engages students in a reflective and dialogical process that utilizes theory to guide structuring of nursing knowledge and the philosophical underpinnings of advanced nursing practice, leadership, and practice inquiry. Ethical decision-making frameworks and relevant research findings will be used to promote the development of application skills for clinical practice.

Prerequisites : Undergraduate/graduate course work in philosophy, ethics, science and social science preferred; Graduate standing or consent of instructor

Credits: Three (3) credits

Class Location: Wholly Online

Delivery Format: Asynchronous Online/Brightspace; Optional Synchronous Zoom meetings may be scheduled

Course Instructor: **Mary K. Walker, PhD, RN, FAAN**
Office Hours: Tuesdays, 9:00 AM-3:00 PM EST
Location: Conference call, Zoom
Instructor Phone: 207-322-6054 (Cell) or by arrangement
Instructor E-mail: mary.walker1@maine.edu

Instructional Materials: Required:

Dahnke, M.D. & Dreher, H.M. (2016). *Philosophy of science for nursing practice: Concepts and applications* (2nd ed). Springer: New York. **ISBN: 978-0-8261-2928-4 (paperback)**

Hoffman, W.M., Fredrick, R.E. & Schwartz, M.S. (Eds.) (2014). Business ethics: Readings and cases in corporate morality. Wiley: Oxford. **ISBN: 978-1118336687 (paperback)**

Recommended:

Benner, P., Tanner, C., & Chesla, C. (2009). Expertise in nursing practice, Caring, and clinical judgment (2nd ed.). Springer: New York. ISBN: **10-0826125441 (paperback)**

Benner, P., Sutphen, M., Leonard, V., & Day, L. (2010). Educating nurses. A call for radical transformation. Jossey-Bass: San Francisco. **ISBN: 978-0-470-45796-2 (cloth).**

Student Learning Outcomes:

Student Learning Outcomes: NUR 675	Graduate Program Outcomes	Essentials of Graduate Education	Evaluation/ Assessment
1. Discuss the interrelationship of theory, research and practice and its contribution to advancing the discipline of nursing.	2, 5	• Essential I, II, VI	• Discussion • Written Assignments
2. Identify a systematic process for selecting and applying appropriate theories, models and concepts to address practice questions.	5.	• Essential II, III, VII	• Discussion • Written Assignments
3. Apply philosophical and theoretical tenets in structuring and implementing practice-based inquiry.	3, 5	• Essential I, II, VI	• Discussion • Written Assignments
4. Use philosophy of science as a basis for concept identification and application in nursing practice.	5	• Essential I, II, VI	• Discussion • Written Assignments
5. Select an ethical framework in order to analyze a patient centered/ organizational system ethical problem.	3,5	• Essential I, II, VI	• Discussion • Written Assignments • Presentation
6. Integrate praxis and practical reasoning within the context of leadership, ethics, and advanced clinical practice.	2,5	• Essential I, VI, VII	• Discussion • Written Assignments • Presentation
7. Evaluate the relevance of values-based practice and evidence-based care	1.	• Essential IV, V, VI	• Discussion • Written Assignments

in advanced nursing practice			

Grading and Course Expectations:

Grades are assigned based on a possible cumulative 100 points. All work will be graded within seven days of the due date unless otherwise indicated by me. Graded components include:

1. Discussion and Interaction (total 30 points= 30% of overall grade)

- Thirty percent of the final grade is dependent on quality of discussion answers and on thoughtful responses to colleagues' comments. Please see the Discussion Rubric which is applied to both verbal/presentation and written interaction.
- An aggregate score (maximum 30 points) will be assigned based on overall response to questions and interaction with classmates as indicated on the rubric

2. Assignments (total 70 points= 70% of overall grade)

- The written assignments carry an individual weight of 20% or a combined weight of 40% (see rubric);
- The presentation carries a weight of 30%.

Grading Scale

A = 92% - 100% ; A-= 90-91% ; B+= 88-89% B= 82-87 % ; B- = 80% - 81%
C+ = 78% - 79%*; C= 77 ; C--= 70-76 ; D = 60% - 69%; F = below 60%

* "Students are expected to achieve a grade of B- or higher in all courses. If a student earns a C or lower in any course, the student is counseled and dismissed from the nursing major." (Graduate Student Handbook, p. 23).

Instructor Expectations

There are a few general expectations as we begin this course. We all bring different kinds of experiences to the class, so be yourself. Some students may have a great deal of "real-world" experience in health care as a patient or provider. Others may contribute based on formal education, life experience, and common sense. Each of you will have different needs, expectations, concerns, and insights. We will find it easier to help you meet your needs if you communicate them professionally, directly, and clearly. When assigned to work in groups/teams, please maintain an open communication style, honoring of everyone else's opinions and effort. Be respectful of everyone's time, including your own, supporting all contributions while pursuing a high quality product that meets the assignment expectations and represents the group's best efforts. Working in groups and teams is a very important skill set in the health care system, and we set an expectation that all of you will advance the concept of team work in completing group assignments.

Course Participation

Please make the commitment to prepare for every class and to provide your responses for exercises, assignments and discussions, when required, on the due dates each week. The "classroom" should be active all week -- not just during formal course meetings (Zoom). In fact, your ongoing engagement is the fuel that advances our progress. Pacing your work earlier in the week will give you more time for larger projects when you need it. Presentations, as well as thoughtful discussion and postings, should incorporate responses to your peers, important information from things that you read, examples from your own experience, and your informed opinions. Your contributions should be substantive and advance the discussion and learning process among all participants. The distinguishing feature of a well done contribution to classroom discussions, presentations and postings might include an objective and critical analysis of what you read, what you experienced, or, possibly, a short synopsis of a chapter or a related assignment from another course. If you do refer to other people's written work, please make sure you give credit to that individual by citing the source appropriately.

Your written work, when required, should be characterized by good writing, correct spelling, and appropriate mechanics. We judge one another substantially by the quality, clarity, and depth of our writing. Communication should be professional and use good "netiquette." In the spirit of scholarly discussion, responses that agree and disagree with others are appropriate, as long as they apply to the topic, are respectful, and, when needed, backed up by the literatue. In our learning model, the heart of active learning occurs through the discussions that help you test your ideas, reinforce what you have learned, and share resources with others in the class.

Responses to Your Work

I will generally respond to questions within 72 hours during the academic work week. IF I am travelling for business purposes, I will alert you to the fact so that you understand if you do not receive a response immediately. *In most cases, all work will be graded within seven days of the original due date unless otherwise indicated.*

Put my name in all of your messages to me. Do the same for responses to everyone else. If you have a general comment or want to start a discussion about a specific point, please address the entire class. No messages are private - so please expand on any topic.

If, after reading the assignment, you do not understand what to do, please ask for clarification immediately. This is preferable to turning in a paper or discussion response that is inadequate for the assignment and losing points. Please contact Technical Support (IT) for any technical problems you encounter. Thank you for your thoughtful reading of these course expectations. *Please review the entire syllabus and make sure you understand all grading, course policies and the assignments.* If you have questions, please let me know as soon as possible.

Puzzled?

If, after reading an assignment, you do not understand what to do, please start by asking questions in the Questions about the Course Discussion Board Forum that supports this course. The Forum is provided so that you can send your question immediately without waiting for instructor availability. If

you are puzzled, it is likely that other students are also puzzled. This not only allows me to clarify the issue for everyone, but it also allows other students to answer the question if they happen to be in the Discussion Board forum before I am. This is much better than turning in an assignment that is not done correctly and losing points. *For technical problems, please contact technical support.* For personal issues, feel free to contact me my email or for complex issues, by phone.

Thank you for your thoughtful reading of the expectations; I welcome your comments. Have a great learning experience!

Policies About Deadlines and Late Work. Work and family issues and emergencies occur. If your work is provided/turned in late but during the week that it is due, you will receive full point credit. If the work from a given week is turned in later during the following week, your work will be graded, less ten percent of your earned grade for each day that the work is late. When the work is more than four days late, it will no longer receive a grade and you will not earn credit for it toward your final grade. If you contact me before the assignment is late, we may be able work out something that is compatible with your schedule, yet meets course expectations. Keep in mind that there are no extensions for the course. All work must be turned in by the last day of the course.

Written and Oral Presentation Rubric:

This rubric will be used to assess the quality of your initial responses and interaction in both the online classroom and online discussion forums, as appropriate. Please use this tool as a guide when constructing your thoughts and written work, including postings when applied to an online format. Unless otherwise directed, responses to Discussion questions should be approximately 150-200 words in length.

	Unsatisfactory: 0	Basic: 1	Proficient: 2	Distinguished: 3
Mechanics of Written Work	Uses incomplete sentences, is	Uses complete sentences and the posting is	Uses complete sentences, organization is	Uses complete sentences,

	unstructured in its organization, and includes frequent or consistent errors in mechanics (grammar, spelling, usage) in each paragraph. The posting is unreadable and there is a distinct lack of tone.	comprehensible. The organization could be improved to present a more coherent argument, statement, or question. Includes 2-3 mechanical errors grammar, spelling, usage) per paragraph. The tone is respectful.	evident, and the posting includes no more than one mechanical error (grammar, spelling, usage) per paragraph. The tone is clear and respectful	organization is clear and thoughtful, the posting is grammatically correct, and free of spelling errors. The tone is clear and respectful.
Participation in the Discussion	Provides minimal comments and information to other participants in the classroom or forum.	Provides comments, and some new information on a sporadic basis. Interacts with only 2 participants in the classroom or forum.	Provides comments, discussion, questions, and new information on a fairly regular basis. Interacts with three or more participants in the classroom or forum.	Provides comments, discussion, questions, and new information on a regular, active, and weekly basis. Shows a high degree of interaction with five or more participants in the classroom or forum.
Content of Written Work or Discussion Contributions	Writes a general or superficial response that is unrelated to the	Demonstrates a restricted understanding of the concepts,	Demonstrates an adequate understanding of the concepts,	Demonstrates a solid understanding of the concepts, topics, and ideas as evidenced by
	discussion at hand and/or provides no original comments.	topics, and ideas as evidenced by written or posting information that could be derived from prior materials, others' comments, former discussions or posts and/or including highly general comments.	topics, and ideas as evidenced by written or posting superficial, or general statements in the classroom or forum. Includes a few details in the comments, discussion or posting.	thoughtful responses and questions that show a clear connection (are integrated) with the course material at hand. The comments, discussion or posting shows depth, and includes many supporting details.
Critical Thinking Evidenced by Written or Verbal	Provides no evidence of agreement or disagreement with an existing	Indicates agreement or disagreement with an existing discussion but provides no	Indicates agreement or disagreement with an existing discussion	Demonstrates a critical analysis of an existing posted idea or introduces a

Contribution	discussion.	justification or explanation for comments.	including a limited explanation or justification. Provides comments, discussion, and questions without a clear connection to the course material at hand.	different interpretation to an existing concept or idea. Includes comments, discussion, and questions that have a clear connection (are integrated) with the course material at hand.

Course Assignments

There are two major assignments linked to the readings that are required for completion of this course.

Assignment One, Due Weeks 3 and 4: See Session folders and Discussion Board

Student Guide to Assignment One

Prepare a position paper that incorporates analysis of the vision for developing a philosophically embedded/theoretically embedded nursing practice change. For example, you may wish to apply Kolcaba's Comfort Theory to structuring and resolution of a clinical problem. Advance the arguments that support it within the parameters of evidence-based practice and ethical decision-making. **Post your synopsis and your paper (Please see the respective Session folder and Discussion Board for up-to-the-minute course information) in the Discussion Board for class discussion.**

Assignment One is worth 20% of the overall course grade.

Assignment One Grading Rubric:

Competency	Excellent 30-40	Acceptable 16-29	Not Acceptable 0-15	Points

				Earned
All elements of a position paper are presented: • A summary of the practice issue; • Background information; • Analysis of suitability for inclusion as an evidence-based practice change; • Ethical considerations; • Recommendation for integration of the practice change in institutional policy and procedure.	All elements are present and well discussed/defined.	Some elements are missing; some elements are not well discussed. Issues related to evidence-based practice are absent, incomplete, or inaccurate.	Multiple missing elements define the paper and/or discussion. Evidence-based practice requirements are ignored.	/40
Competency	Excellent 30-40	Acceptable 16-29	Not Acceptable 0-15	
Current and contemporary evidence-based practice changes are identified and supported in the literature: • A summary of the issue; • Background information; • Analysis of evidence-based	Evidence and data-based support is presented and provides appropriate scaffolding for the position paper.	Some elements are missing; some elements are not well supported.	Multiple missing elements and / or support are absent or minimal, at best.	/40
practice challenges that				

• impact curricular proposal; • Recommendation for action.				
Competency	**Excellent 8-10**	**Acceptable 4-7**	**Not Acceptable 0-3**	
Grammar, spelling, and punctuation	There are no errors in grammar, spelling, and punctuation	There are a few minor errors in grammar, spelling, and punctuation that do not detract from the meaning	There are major errors in grammar, spelling, and punctuation that do not reflect doctoral writing	/10
Competency	**Excellent 8-10**	**Acceptable 4-7**	**Not Acceptable 0-3**	
APA Compliance	The paper meets APA formatting guidelines	There are a few minor errors	There are significant errors in the format of the paper	/10
Total Points				/100

*Assignment Two and Presentation, Due **Weeks 10 and 11 according to the following directives:***

Student Guide to FINAL PROJECT **(Assignment 2 and Presentation):**

Select an ethical theory that you believe provides evidence of ethical comportment and grounds complex clinical decision-making now.

A. Prepare an abstract addressing the following question, as well as a formal 7-8 MINUTE presentation (Kaltura, PowerPoint or other). Use a Kaltura, PowerPoint voiceover OR OTHER SIMILAR methodology.
B. Prepare a five to seven page paper that addresses the following question:

What is the relationship between your selected ethical theory and either:

1. *the ANA Code of Ethics or*
2. *the QSEN competencies?*

The Kaltura/PowerPoint/Other presentation is due for grading during week 10**. Post your abstract,**

Kaltura/PowerPoint voiceover/Other **7-8 minute presentation in the Discussion Board for class discussion during Week 10.**

The Final abstract, Kaltura presentation and paper are worth 50% of your overall course grade.

C. Post your abstract and your Kaltura/PowerPoint/Other presentation in Week 10 of the Discussion Board.

D. Post your 5-7 page paper related to this final topic in Week 11 of the Discussion Board.

Assignment 2: Grading Rubric for Written Paper:

Competency	Excellent 60-80	Acceptable 16-29	Not Acceptable 0-15	Points Earned
All elements of the paper are presented: • Identification of a suitable ethical framework/theory; • Comparative assessment of your ethical theory and either the ANA Code of Ethics or	All elements are present and well articulated. Rationale for selection of ethical theory and structural analysis 30-40 points	Some elements are missing; some elements are not well discussed. Issues related to evidence-based practice are absent, incomplete, or inaccurate.	Multiple missing elements define the paper and/or discussion. Evidence-based practice requirements are ignored.	/40

the QSEN Competencies.	Comparative assessment with the ANA Code of Ethics or QSEN competencies 30-40 points			
Competency	**Excellent 8-10**	**Acceptable 4-7**	**Not Acceptable 0-3**	
Grammar, spelling, and punctuation	There are no errors in grammar, spelling, and punctuation	There are a few minor errors in grammar, spelling, and punctuation that do not detract from the meaning	There are major errors in grammar, spelling, and punctuation that do not reflect doctoral writing	/10
Competency	**Excellent 8-10**	**Acceptable 4-7**	**Not Acceptable 0-3**	
APA Compliance	The paper meets APA formatting guidelines	There are a few minor errors	There are significant errors in the format of the paper	/10
Total Points				/100

Weekly Outline

Module/Week/ Date	Topics	Activities/Assignments	Assessments
Week 1: Note that PowerPoint slides and other videos complement the readings. Due: 1/20	Generalized overview and Introductions	Dahnke and Dreher. Read the Overview as time permits in order to ground your thinking in the contemporary concept of "practice." These thoughts should form a strong basis for further reading and interpretation. Week 1 assignments are based on chapters 3 and 4, pp.71-112	Provide an introduction and brief biography of yourself and your interests. Include some background information, including: where you live, what you do, who is important to you, and why you are enrolled in the graduate program. Be sure to share an interesting fact about yourself that few people know.
Due: 1/20 Responses: 1/23	Unit I: What is Philosophy of Science? Confirmation, Semantics, and the Interpretation of Scientific Theories		**Discussion** 1a.Distinguish between five types of knowledge that nurses generate for use in practice. 1b. Is knowledge that supports advanced practice derivative knowledge? Yes or No? Why or Why not? Use the literature to support your position. Provide substantive responses to peers

Week 2: Beginning this week, identify a concept that you will work with for the entire 10 weeks of the course.. If possible, locate a theoretical/ conceptual framework in which the concept is used. Due: 1/27 Responses: 1/30	Philosophy of Science and its relationship with theory.	Dickoff, J., *and. James, P. (1968).* A theory of theories: A position paper. *Nursing Research.* May-June 17(3), pp. 197-203. Dickoff J, James P, & Wiedenbach E. (1968). Theory in a practice discipline. I. Practice oriented discipline. *Nursing Research. Sep-Oct. 17(5):415-35.* Dickoff, J., and James, P. (1968). Researching Research's Role in Theory Development. *Nursing Research* 17, 204-205. These articles are available online. They are not on reserve in the library.	**Discussion** 2a.Philosophy of science deals with what science is, how it works, and the logic through which we build scientific knowledge. Consider a concept (self-regulation, e.g.) in nursing and speak to how this definition addresses or does not address your understanding of the concept. Use citations to substantiate your argument. 2b.Discuss your understanding of the "fit" of concepts with observables. Read and comment on at least one peer response. Use the literature to support your position.
Week 3 Due: 2/3 Responses: 2/6	Continued	Dahnke and Dreher, Cpts. 8-10, pp. 165-222	**Assignment I Synopsis Due** **Post a synopsis of your paper in the Discussion forum.** Read and comment on at least two peer synopses. Use the literature to support your position.
Week 4	Unit II:	Benner et al. Chapter 8, pp. 233-278	**Assignment 1 Paper Due for Instructor**

	The Social		**Grading.**
Due: 2/10 Responses: 2/13	Embedded-ness of Knowledge	Hoffman et. al. The Corporation in Society. Pp. 475-513.	.
Week 6 Due: 2/17 Responses: 2/20	Unit IV: **Proficiency, Ethics and Expertise** Institute for Healthcare Improve-ment (IHI)	Benner et al., Chapters 1, 4-5, pp.1-25; 103-179 Quality and Safety in Nursing (QSEN) readings of your choice. Integration of preceding content with ethical decision-making and behavior.	**Discussion** 6a) Comment on this statement related to investigator ethics: "Social scientists who are self-conscious about the underlying assumptions and commitments of their research not only enrich their research, but become equipped to recognize and avoid the potential pitfalls, fallacies, unjustified assumptions, and undesirable implications in their research programs, and, indeed, perhaps even how such programs may indirectly contribute

			to injustice in the world." Read and comment on one other peer response. Use the literature to support your comments.
Week 7 Due: 2/24	Application Science: QSEN; High reliability care	High reliability health care: Getting there from here. Milbank Quarterly, 2013. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3790522/ Retrieved December 7, 2018 IHI: A Framework for Safe, Effective and Reliable Care. http://www.ihi.org/resources/Pages/IHIWhitePapers/Framework-Safe-Reliable-Effective-Care.aspx Retrieved December 7, 2018 Cronenwett, L, Sherwood, G, Barsteiner, J, Disch, J, Johnson, J, Mitchell, P et al. (2007). *Quality and safety education for nurses. Nursing outlook, 55(3), 122-131.*	**Discussion** 7a) .Discuss the implications of the JCAHO high reliability requirement for practice on your nursing unit? Why would some hospitals give up their JCAHO accreditation rather than comply? 7b) What is the purpose of QSEN from your vantage? How do Cronenwett et al. advance the arguments for full incorporation of quality and safety into nursing practice? Read and provide substantive responses to at least one peer.
Responses : 2/27			
Week 8 Due: None Responses : None	Continued	Hoffman et. al. Cpts. 1&2, pp. 33-140.	Catch-up or Work Ahead Week: You may work ahead or work to complete any previous work that remains to be

			finished.
3/15-3/21		Spring Break	Spring Break, No Discussion, No comments
Week 9 Due: 3/24 Responses : 3/27	**Unit V: Complexity Science**	Benner et al., Chapters 9-10, pp. 279-334 *Dreyfus, HL, Dreyfus, SE & Benner, P. (2009).* Implications of the Phenomenology of Expertise for Teaching and Learning Everyday Skillful Ethical Comportment. *In P. Benner & C. Tanner (eds.), Expertise in Nursing Practice, Caring, Clinical Judgment and Ethics (2nd ed., pp. 309-333). New York: Springer.*	**Discussion** 9a. Identify a clinical scenario from your experience that, in retrospect, met the criteria for complexity science in your view. 9b. Identify three ways that complexity science assists in explaining social inequality and social determinants of health. Give examples. Read and provide substantive responses to at least one peer
Weeks 10, 11, 12, 13 Week 10 due: 3/30 Responses :4/2 Week 11	Implications for Nursing Practice and Policy	Benner et al., Chapters 12-13, pp. 369-435 Sullivan, W (2005). Challenges to professionalism: Work integrity and the call to renew and strengthen the social contract of the professions. *American Journal of Critical Care, 14(1), 78-80, 84.*	**Assignment 2 Due for Instructor Grading** **Student Guide to FINAL PROJECT (Assignment 2):** **Select an ethical theory that you**

due: 4/14 Responses : 4/17 Week 12 due: 4/21 Responses : 4/24 Week 13a due: 4/28 Responses :5/1 Week 13b due: 5/5 Responses : 5/8			**believe provides evidence of ethical comportment and grounds complex clinical decision-making now.** a) Prepare an abstract and provide a 7-8 minute Kaltura or PowerPoint presentation regarding that abstract that addresses the following question and b) Prepare a five to seven page paper that addresses the following question: ***What is the relationship between your selected ethical theory and either:*** 3. ***the ANA Code of Ethics or*** 4. ***the QSEN competencies?*** WEEK 11: Post the written abstract and your 7-8 minute video to the Discussion Board as two separate items. WEEK 12: Read and respond to at least one final paper written by peers. Use the

			literature to support your responses. WEEK 13, SUMMATION: • 113 a. Consider the relationship of Benner's work on nursing expertise to clinical translational science (CTS) as you understand it. What competencies are needed now to provide patient care outcomes consistent with contemporary thinking? • 113 b. Provide five insights that have occurred to you regarding the need to expand nursing expertise at the bedside using implementation science.

Expectations for Student Conduct

- 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. Please see the University of Maine System's Academic Integrity Policy listed in the Board Policy Manual as Policy 314: https://www.maine.edu/board-of-trustees/policy-manual/section-314/

- **Students Accessibility Services 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. Walker) privately as soon as possible.

- **Course Schedule Disclaimer (Disruption Clause):** In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), 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.

- **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 Title IX Student Services 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*: **Title IX Student Services: 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.

THE UNIVERSITY OF MAINE

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 Food Science and Human Nutrition

COURSE DESIGNATOR FSN COURSE NUMBER 585 EFFECTIVE SEMESTER S 2021

COURSE TITLE Sensory Evaluation I

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
- ☐ Number Change
- ☒ Title Change
- ☒ Description Change
- ☐ Prerequisite Change
- ☐ Credit Change
- ☐ Cross Listing (must be at least 400-level)[1]
- ☒ Other (specify) Removal of lab and recitation

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)

Robert Causey Digitally signed by Robert Causey Date: 2020.10.13 08:50:49 -04'00'

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

College Dean(s)

Christopher Gerbi Digitally signed by Christopher Gerbi Date: 2020.10.16 13:09:44 -04'00'

Graduate School (sign and date)

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

SECTION 2 (FOR COURSE MODIFICATIONS)

Current catalog description (include designator, number, title, prerequisites, credit hours):

FSN 585 Sensory Evaluation I
Introduction to sensory evaluation practices including difference and affective testing. Additional research experience outside of class may be required. Blackboard lectures.
Prerequisites: FSN 330, STS 232 and PSY 100 or permission
3 credits
Laboratory Required, Lecture Required, Recitation Required

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

FSN 585 Principles of Sensory Evaluation
Introduction to sensory evaluation practices including difference and affective testing. Online class with scheduled synchronous discussions. Prior classes in food science, statistics, and psychology are strongly recommended.
Prerequisites: Graduate status or permission
3 credits
Online Lectures

Reason for course modification:

Student evaluations from 2019 indicated that students, particularly graduating seniors, wanted more lecture content. Other upper-level food science classes have separated their lectures from labs. There has been substantial growth in the online Food Technology graduate certificate program, and the separation of lab from lecture will allow those students to gain significant career skills at a distance.
Problem-solving exercises previously covered in the recitation will be added to the online lectures.

SECTION 3 FOR COURSE ELIMINATIONS

Reason for Elimination

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.

Proposed Revision to Graduate School Policies and Regulations

2.1.1 Credentials Required

a. A complete application calling for biographical and other information concerning the applicant.

b. Three (3) letters of recommendation from persons familiar with the applicant's qualifications. These letters should be academic references, although professional references are acceptable for some professional programs.

c. A copy of an official transcript of all previously attempted college level work.

d. Scores from standard tests as outlined in Graduate Admissions Examinations, if required by the program.

2.1.2 Graduate Admissions Examinations

2.1.2.1 Graduate Record Examination

Although the Graduate School does not require standardized admission scores as a general criterion for admission, some programs may opt to require GRE aptitude test scores, and may further require advanced test scores, if an appropriate advanced test is available.