Graduate Board
Thursday, March 25, 2021
By Zoom:

Join Zoom Meeting

ID: 96865316980

Password: 874722

(US) +1 646-876-9923

3:00-4:30 pm

AGENDA

1. Review/Approval of the February 25, 2021 Graduate Board minutes

2. Approval of the March 2, 2021 Graduate Curriculum Committee report

3. Announcements/updates
   - Commencement update
   - Update on Graduate School financial awards
   - Council of Graduate Schools awards
   - Associate Provost

4. TargetX (CRM) Update – Crystal Burgess
   - RFP update
   - Email communications

5. UMS Graduate Faculty appointments (see draft amendment)

6. Items arising

Graduate Board
Thursday, February 25, 2021

Join Zoom Meeting
ID: 97954875884
Password: 323082
(US) +1 312-626-6799

Attendance: P. Agrawwal, J.Artesani, J. Ballinger, C. Beitl, J. Bonnet, D. Bousfield, T. Bowden, S. Butler, A. Cruz-Uribe, S. Delcourt, D. Dryer, S. Ell, J. Gill, H. Greig, W. Gramlich, N. Hall, S. Jain, Z. Jin, S. Klein, A. Knightly, K. Kreutz, M. LaRocque, J. McClymer, E. McKillen, I. Mette, S. Ohno, H. Onsrud, E. Pandiscio, F. Peterson, P. Poirier, L.Rickard, D. Rooks-Ellis, J. Stoll, K. Vekasi, V. Weaver, T. Yoo, J. Zydlewski (for C. Sponarski).

Guests: Y. Zhu, M. Musavi, C. Burgess, F. Libby, M. Barrington,

1. Review/approval of the December 10, 2020 Graduate Board minutes
    - Jim Artesani – motion to approve
        i. Will Gramlich & Jim McClymer need to be added to attendance from the Dec 2020 meeting.
        ii. Unanimous approval with one correction (attendance)

2. Approval of the January 19 and February 9 Curriculum Committee reports

    - January 2021 Curriculum Committee Report

      New Courses:

      CIE 521 Civil Engineering Systems and Optimization

      COS 535 Information Privacy Engineering

      ENM 586 Advanced Project Management

      FSN 543 Communication in Nutrition and Food Technology

SPI 576 The U.S. Intelligence Community And National Security

Modifications:

ECE 585 Fundamentals of Wireless Communication

- February 2021 Curriculum Committee Report
  New Courses:

  ESC 555 Engineering Design Process for K-12 Education

  SED 625 Sp. Education Internship for Maine's Alternative Certification and Mentoring

  Modifications:

  CHI 661 Topics in Advanced Inorganic Chemistry

  EHD 571 Qualitative Research: Theory, Design, and Practice

  EHD 572 Advanced Qualitative Research

  SED 513 Early Childhood/ Special Education Practicum

  SED 520 Law and Policy Affecting Individuals with Disabilities

  SED 532 Behavior Management and Intervention

  SED 544 Mathematical Methods in Special Education

  SED 545 Intervention for Reading Difficulties

  SED 553 Assessment in Special Education

  SED 556 Assessment of Students with Autism Spectrum Disorders and Disabilities

  Motion to approve February Curriculum Report– Deborah Rooks-Ellis
  2nd – Harlan Onsrud
  Unanimous approval

3. Announcements/updates

The Graduate Executive Committee has completed selection of the fellowship and assistantship awards and is currently working on the scholarship awards. All winners will be announced at the March Graduate Board meeting.

Now that both deadlines have passed for shared TA nominees, the Executive Committee will also be finalizing those.

Will Gramlich asked if both deadlines are necessary since decisions are not made until after the second deadline. S. Delcourt agreed and said he would take this issue back to the Executive Committee.

- Commencement update – KHH & CB – a lot up in the air at the moment. Initially – 100% virtual – students (nearly all undergraduate) signed a petition via change.org – mostly undergrad pressure to have some live component.
  The committee is now considering hybrid options that would enable 50 people at a time to gather. Stage introductions could potentially take place in the Collins Center.

  There is also discussion about having some (3-4) tents set up on the mall for department gatherings that could be booked by departments.

  Graduate School is in the process of a Graduate Student survey that should be complete by Wednesday, March 3, 2021. 102 have completed the survey as of today. Crystal is monitoring via Qualtrix.
  Approximately 42% of respondents have suggested that they would potentially come if there were some "in person" component.
  51% want names on scoreboard, program, website, etc…
  Next important item is the ability to take pictures with friends and family.

  Kristin Vekasi asked how to proceed if a program would like to have a live gathering. Reach out to Ben Evans and use Event Management Form to request ability to host.

  Sandy Butler added that students in her area are interested in having something

  Pat Poirier – will share once SON determines what they are doing for pinning. Will conduct some type of drive through event this year – and are trying to finalize plans.

- Graduate enrollment update – Scott Delcourt & Fiona Libby
  UMaine set record graduate enrollment recently – surpassing 2400 students for the Spring 2021 semester. (Actually higher than last fall's enrollment). UMaine set a record doctoral enrollment in the fall semester, surpassing 500 doctoral students!

  Good news is continuing for summer and fall applications. UMaine has over 100 more applications this year than last year at the same time. Confirmations are also up 33% from last year.

  Consistent communications are helping with the earlier confirmations. Graduate School does communicate regularly with inquiries, applicants, right through the confirmation stage. However, communication from program faculty is also very important.

  There has been an increase of over 150% in online enrollment over the past two years.

  Harlan Onsrud – SCIS master's degree enrollment has grown from 20 grad students to 120 grad students in the past two years. Distance education has been helpful – and has made a number of changes – rolling admissions, list of references rather than letters to submit. Working on earlier responses to applicants.

  Monique LaRocque – Online program awareness helps on campus program awareness. If your program is considering moving online, please let Monique and Scott know – we want to be able to support you in this. Currently serving over 1700 online students in total.

  Fiona has been working on UMS Virtual Graduate School Fair with other UM system schools – March 11: a 12pm and a 5pm session. There is a website available: https://www.maine.edu/gradfair/.

4. Graduate Program Learning Outcomes (PLOs) – Mandy Barrington

   Scott invited M. Barrington back to update the Graduate Board on progress in developing Program Learning Outcomes for graduate certificates and degree programs. The Graduate School will be sending out a simplified spreadsheet to check on progress in each program (PLOs completed and approved/PLOs in progress/PLOs deferred). NECHE asks that schools publish the PLOs on their program websites. Mandy reminded GB members that when their PLOs are completed, send them to Ryan Weatherbee and Mandy Barrington in OIRA for review. Once approved, they may be published online.

   M. Barrington said 3 programs have finalized PLOs, 20 are in progress, and 10 have deferred to next year. No one is behind; we just want to have these live by

next year. When you receive the spreadsheet please verify that your program is included.

5. New programs proposals

- Substantive change proposal for the Master of Business Administration – Jamie Ballinger
  MBS faculty have been updating the MBA curriculum. Some older electives are being phased out – and new courses being added:
  BUA680 – Business Analytics,
  MBA 637 – Global Systems Networks

S. Delcourt noted that he had checked with the Provost's office to confirm that small curriculum changes to an existing degree program do not require approval from the UMS. Any new MBA applicants for Fall 2021 will be applying under the new catalog requirements. S. Delcourt offered to send the catalog text to Jamie soon so that she can begin making the necessary changes.

- Graduate Certificate in Engineering Applications of Artificial Intelligence (redux) – Mohamad Musavi and Yifeng Zhu
  Mohamad Musavi gave a presentation to address concerns from SCIS regarding the proposed graduate certificate. He also noted that he had included a fully online pathway for the certificate. M. Musavi has met with Ali Abedi regarding this certificate as well. The main charge for the AI faculty is to expand research components at UMaine.

  Harlan Onsrud – who would the potential students? What's the audience?

  Terry Yoo – who should apply for this type of certificate? Should be engineering students? Certificate is not a degree program – so it should transition students into related degree programs. Will students in this certificate enroll in the data science and engineering program, or will they not have the necessary computer science background?

  S. Delcourt - keep in mind that this is a 4 course/ 12 credit certificate and not a full master's degree degree program. It won't be a comprehensive degree program in AI.

  Yifeng Zhu – this program gives students the ability to stay on for a master's degree after this certificate. He noted that many students taking graduate level AI courses from SCIS are engineering students.

  M. Musavi acknowledge that this certificate is intended for engineering students who wish to pick up some background in AI. They have a math and engineering background. He added that he been working on this since the summer and had discussed the certificate proposal with Penny Rheingans.

S. Delcourt noted that none of the SCIS courses are required to earn the certificate. If there is a concern about student success in the SCIS courses, additional prerequisite requirements could be added in the certificate program description, or the SCIS courses could be removed.

Terry Yoo – not comfortable with the courses being included as listed. Would like courses to be respectfully withdrawn.

Shaleen Jain reminded the group that we are all here for the students – and should find a way to work it out in their favor.

Yifeng Zhu – asked if we could make a motion to approve without the SCIS courses included.

H. Onsrud objected to moving this forward until the computer science courses included in the certificate are resolved with SCIS.

Jacqueline Gill suggested a third party mediation to try to find a way forward for this to eventually be voted upon.

Scott noted that we are below the 30 voting members usually required for a quorum so this will have to be tabled. Will try to bring representatives form SCIS and engineering back to the table for further discussion.

6. TargetX (CRM) Update – Crystal Burgess
    - RFP update – Crystal will send an email to the Grad Board with more information. Core group will reviewing proposals soon for a CRM. (Target X has been continued until we make decisions on which direction to move forward.)

    - Email communications - discussion postponed until next meeting.

7. Entrepreneurial Graduate Programs
   Scott Delcourt will cover at our next meeting once the President has reviewed and approved the text.

8. UMS Graduate Faculty appointments - discussion tabled until next meeting.

9. Items arising

Meeting Adjourned 5:06PM

CURRICULUM COMMITTEE REPORT

The Curriculum Committee met on March 2nd, 2021 and, is recommending the following courses to the Graduate Board for approval at its March 25th meeting.

New Courses:

CIE 557 Measurement Techniques in Water Resources

SFR 555 Advanced Remote Sensing

Modifications:

FSN 695 Food Science and Human Nutrition Practicum

SFR 520 Development and Growth of Plants

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 and Environmental Engineering

COURSE DESIGNATOR CIE COURSE NUMBER 557 EFFECTIVE SEMESTER Fall 2021

COURSE TITLE Measurement Techniques in Water Resources

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 Davids Digitally signed by William G Davids Date: 2021.01.12 14:22:46 -05'00'

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

MTH Digitally signed by Mohamed Mokaa DN: cn=Mohamed Mokaa, o=University of Maine, ou=College of Engineering, email=mokaa@maine.edu, c=US Date: 2021.01.15 11:29:46 -05'00'

College Dean(s)

2/11/21

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 557 - Measurement Techniques in Water Resources

This course is an introduction into measuring dynamic variables in coastal, riverine and lake environments. Topics include accuracy, precision, aliasing, instrumentation set up, communication and troubleshooting; participation in a field campaign; preliminary data processing procedures, presentation, and organization

MAT 228 or permission of instructor

3 credits

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:

n/a

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

Kimberly Huguenard, Assistant Professor, 1 Fall and 2 Spring

Reason for new course

This new course will support the Water Resources sub discipline in the Civil and Environmental Engineering graduate curriculum. It will also enhance the offerings for the Masters of Engineering in Water and the Environment 4+1 program.

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?

Offered every other Fall

CIE 557
Measurement Techniques in Water Resources
Fall 2021

Time: TBD
Date: TBD

Course description: This course is an introduction into measuring dynamic variables in coastal, riverine and lake environments. Topics include accuracy, precision, aliasing; instrumentation set up, communication and troubleshooting; participation in a field campaign; preliminary data processing procedures, presentation, and organization.

Instructor: Dr. Kimberly Huguenard
Office: 319b Boardman Hall
Phone: 581-1216
Email: Kimberly.huguenard@maine.edu
Office Hours: by appointment (email to schedule)

Required Textbook: n/a

Other resources:
Thorpe, S. A. (2005) *The Turbulent Ocean**
Kundu (1990) Fluid Mechanics
Tennekes and Lumley (1972) *A first course in turbulence*
Valle-Levinson (2011) Contemporary Issues in Estuarine Physics*
* indicates on class website as PDF

Prerequisites: MAT 228 or permission of instructor

Grading:

Homework	30%
Field tests	40%
Final Project	30%

Grading Rubric Description

Mark	Pts.	
✓+	10	Same as below, with limited or no mistakes/miscalculations. No misuse or misunderstanding of key concepts.
✓	9	The student completed all problems and demonstrated a thorough understanding of key concepts. The student applied evaluation methodologies correctly, though there are minor mistakes or miscalculations. The student may have shown misunderstanding or misuse of a key concept. Calculations and methodologies are

		easy to follow and presented clearly. Annotations clearly describe key calculations developed to communicate information.
✓-	7	The student attempted to complete all problems. There are several instances where the student demonstrated a lack of understanding of a key concept(s). There are several calculation errors. Analyses and approach lack clarity. Annotations (or lack thereof) make it difficult to follow methodologies. Missing information and/or assumptions used in analyses.
✓- -	3	The student has not attempted and/or partially completed several problems. The student has demonstrated a lack of understanding for several/many key concepts. Analyses are not presented clearly making it difficult to follow methodologies. Missing information.
-	0	The student has not presented a calculation package for the homework.

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

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

1. Plan and execute a successful field campaign
2. Set up, deploy and troubleshoot oceanographic instrumentation
3. Collect and pre-process measurements of current velocity, salinity, temperature and turbulence

Class, Assignment and Attendance Policies

- Homework and Labs are due at the **beginning** of class on the due date.
- The class website is on Google Classroom. The code is **vu4g5v4**. This website will show announcements, the syllabus and the most up to date course schedule.
- Homework is critical in practicing what you learn in class. You can work in groups on problems, but you are NOT allowed to copy each other.
- **Academic honesty** 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/

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

- In the event of an extended disruption of normal classroom activities (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.

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 Forest Resources

COURSE DESIGNATOR SFR COURSE NUMBER 555 EFFECTIVE SEMESTER Fall 2021

COURSE TITLE Advanced Remote Sensing

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)

Stephen Shaler Digitally signed by Stephen Shaler Date: 2021.02.04 09:02:05 -05'00'

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

Christopher Gerbi Digitally signed by Christopher Gerbi Date: 2021.02.10 08:53:29 -05'00'

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):

SFR-555: Advanced Remote Sensing

Prerequisites: SFR-406, INT-527 or any introductory remote sensing courses or instructor's permission. Students should also have experience working with Microsoft Windows, GIS software, be familiar with raster and vector data structure, be able to use spreadsheets such as Excel, and have general knowledge of statistics.

3 credits (Lecture 2, Lab 1)

This course covers advanced topics in remote sensing as related to applications in natural resources. The focus is on optical multispectral and hyperspectral remote sensing for vegetation studies but other topics and platforms will also be discussed. The goal is to equip graduate students who intend to do research in the area of remote sensing with necessary tools and knowledge to perform research tasks.

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:

- Remote Sensing of Vegetation: Principles, Techniques, and Applications 1st Edition (by Jones and Vaughan, 2010).
- Various research articles published in scientific journals: Some top journals in the field include: Remote Sensing of Environment, ISPRS Journal of Photogrammetry and Remote Sensing, Remote Sensing, International Journal of Applied Earth Observation and Geoinformation, International Journal of Remote Sensing and Remote Sensing Letters. Due to the interdisciplinary nature of the field, many other journals published by Springer, Elsevier, MDPI and Taylor & Francis publish remote sensing related research.

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

Parinaz Rahimzadeh-Bajgiran, Assistant Professor of Remote Sensing of Natural Resources, School of Forest Resources, 50% teaching appointment

Reason for new course:

Graduate students who intend to carry out research in the area of remote sensing of natural resources need to have hands-on experience and adequate knowledge to find, produce, manipulate and model remotely sensed data, a mastery of specialized remote sensing software and a deep understanding of recent developments in the area of remote sensing technology and applications. Across campus there are several research programs dealing with remote sensing applications but a comprehensive course of this nature is currently lacking.

This course was tentatively offered in Fall 2020 under SFR-609, attracted 8 students including three students from non-SFR units and received very good feedback and student evaluations. The proposed syllabus is a modification of the offered course after applying students' feedback and informal faculty input.

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.

As mentioned above, there is currently no similar advanced remote sensing course available on campus so no overlap is expected. Other than SFR, the course will be attractive to graduate students from EES, SBE and WFCB.

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?

Falls every other year. No overload salary expected as the teaching load will be within the instructor's 50% teaching appointment.

Course Information

Instructor: Dr. Parinaz Rahimzadeh-Bajgiran, Assistant Professor of Remote Sensing of Natural Resources, School of Forest Resources, University of Maine, Orono
Phone: (207) 581-2813 (office) ~ Email: parinaz.rahimzadeh@maine.edu

Office Hours: Fridays 1:00-3:00 pm in Nutting 215 by appointment due to COVID-19 pandemic. For other times, please contact the instructor by email.

Class meetings: Lectures are [Day] at [Time-Time] in [Building, Room #]. Labs [Day] at [Time-Time] in [Building, Room #].

1. Prerequisites: SFR-406, INT-527 or any introductory remote sensing courses or instructor's permission. Students should also have experience working with Microsoft Windows, GIS software, be familiar with raster and vector data structure, be able to use spreadsheets such as Excel, and have general knowledge of statistics.

2. Course Description: This course covers advanced topics in remote sensing as related to applications in natural resources. The focus is on optical multispectral and hyperspectral remote sensing for vegetation studies but other topics and platforms will also be discussed (Lecture 2 credits, Lab 1 credit, Total 3 credits). The goal is to equip graduate students who intend to do research in the area of remote sensing with necessary tools and knowledge to perform research tasks.

3. Learning Outcomes: Upon successful completion of this course, students will advance their knowledge in remote sensing of natural resources in particular optical remote sensing and how to use remote sensing in their research effectively. Students will learn current systems, advances and applications related to the topic, specifically the students will be able to:

- Work with multispectral and hyperspectral data at different scales
- Perform effective pre-processing steps, data manipulation and fusion
- Proficiently use ENVI software for image analysis including data transformation and manipulation, data extraction, and analysis
- Implement image classification using different classifiers
- Use broad-band and narrow-band remote sensing indices and understand their applications
- Estimate vegetation bio-physical and biochemical properties from satellite data
- Work with open source and other cloud-based data processing platforms

4. Methodology: The course includes lectures, discussions, lab exercises and assignments intended to provide students with the knowledge, skills, and perspectives they need to use remote sensing in graduate level research.

5. Activities and Assignments:

- Lab Assignments: There will be lab assignments as detailed in the course syllabus. Due dates for lab assignments are provided. Assignments must be submitted through the class portal on Google Classroom. Paper submissions are not acceptable. Late assignments, without PRIOR arrangement with the instructor, will receive a reduced grade. No credit will be given to assignments turned in after assignments are graded and returned.

- Two exams (Exam 1 and Exam 2) are planned for the course as specified in the course syllabus. The exams are NOT cumulative and will only cover materials presented within the specific course window.
- Final Project: Each student will be assigned to a topic for which they are required to identify three recent papers published in top journals and study them in detail. The students will need to submit a two- page summary of the three papers they studied comparing the research methods, data and results for the specific application of concern, along with justification for the selection of the paper to be presented in class (**summary~1000 words, justification~150 words plus references list, font can be 10 or 11 pt.**). Finally, each student will present the selected paper out of the three they have reviewed in detail to the class. The presentation will be critical and the students need to evaluate and discuss topics such as choice of data and methods, advantages and disadvantages of the methods and data used, presentation quality (e.g. figures and graphs) as well as possible issues and shortcomings of the paper. A copy of the paper to be presented in class must be sent to the instructor to be shared with the class at least one week before the presentation. All students are expected to have a print-out of the paper being presented and to actively engage in critical discussions following the presentation. The length of the presentation and follow-up discussion is ~50 min (30 min+20 min).

6. Attendance and Class Participation Policy: Attendance and class participation are expected of all students at all times unless special circumstances warrant otherwise with prior permission.

7. Evaluation: Grades will be calculated as follows:

a) Participation (5%)
b) Exam 1 (20%)
c) Assignments (30%)
d) Exam 2 (20%)
e) Final Project (presentation and summary) (25%)

8. Grading Rubric:

	-		+
A	90-92	93-100	-
B	80-82	83-87	88-89
C	70-72	73-77	78-79
D	60-62	63-67	68-69
F		<60	

9. Textbook and readings:

- Remote Sensing of Vegetation: Principles, Techniques, and Applications 1st Edition (by Jones and Vaughan, 2010).
- Various research articles published in scientific journals: Some top journals in the field include: *Remote Sensing of Environment, ISPRS Journal of Photogrammetry and Remote Sensing, Remote Sensing, International Journal of Applied Earth Observation and Geoinformation, International Journal of Remote Sensing and Remote Sensing Letters.* Due to the interdisciplinary nature of the field, many other journals published by Springer, Elsevier, MDPI and Taylor & Francis publish remote sensing related research.

10. 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.

11. 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. (Last copied July 2020). For authoritative source see: https://umaine.edu/citl/teaching-resources-2/required-syllabus-information/#Observance

12. Disability 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 (the instructor of the course) privately as soon as possible.

13. Academic dishonesty: Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers/assignments written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers/assignments 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.

14. 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: 207-5811406, 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/

15. 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.

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

Course Organization

Date	Topic	Reading	Assignment	Labs
9/1 **Week 1** 9/3	Lecture 1: Radiative properties of vegetation, soil and water (optical, thermal and microwave regions), Sensing instruments and platforms, current systems scale, user requirement and limitations	RS of Vegetation, Ch. 3 and Ch. 5		Lab 1: Review on working with raster data in ENVI
9/8 **Week 2** 9/10	Preparation and manipulation of optical data	RS of Vegetation, Ch. 6 and selected articles	Assignment 1, due date Sep. 17, 10:00 am	Lab 2: Landsat products, creating spectral library, data extraction and data fusion
9/15 **Week 3** 9/17	Multi-spectral and hyperspectral sensing and imaging, image classification, scale and sampling	RS of Vegetation, Ch. 7, Section 7.4, selected articles and handouts	Assignment 2, due date Sep. 24, 10:00 am	Lab 3: Parametric and non-paramedic image classification methods, working with hyperspectral data
9/22 **Week 4** 9/24	Lecture 4: Spectral information for sensing bio-physical and bio-chemical properties	RS of Vegetation, Ch. 7, Section 7.1-7.3 and selected articles	Assignment 3, due date Oct. 1, 10:00 am	Lab 4: Making broad-band spectral indices, MODIS products, property measurement I
9/29 **Week 5** 10/1	Exam 1 (9/29) covers material from Week 1-4	------	Assignment 4, due date Oct. 8, 10:00 am	Lab 5: Making narrow-band spectral indices from hyperspectral data, property measurement II
10/6 **Week 6** 10/8	Unmanned aerial vehicle (UAV) hyperspectral data collection, processing and applications	Guest lecturer: Dr. Peter Nelson, Schoodic Institute, Maine		Lab 6: UAV applications
10/13 **Week 7** 10/15	Remote sensing of change detection 1: Remote sensing techniques for detection and diagnosis of vegetation stress or damage	RS of Vegetation, Ch. 11 and selected articles	Assignment 5, due date Oct. 22, 10:00 am	Lab 7: Damage detection

10/20 **Week 8** 10/22	Remote sensing application: change detection 2: Available models/algorithms for ecosystem monitoring and change detection	RS of Vegetation, Ch. 11 and selected articles	Assignment 6, due date Oct. 29, 1:00 pm	Lab 8: Change detection
10/27 **Week 9** 10/29	Lecture 7: Remote sensing of energy-balance components and thermal sensing	RS of Vegetation, Ch. 9, Soil moisture retrieval, Ch. 3	Final project articles submission due date Oct. 30, 11:59 pm	No Lab on 10/29 (SAF Conference)
11/3 **Week 10** 11/5	Synthetic-aperture radar (SAR)	Guest lecturer, Dr. S. Homayouni, Associate Professor, INRS, Centre Eau Terre Environnement, Quebec, Canada		Lab 9: SAR, Google Earth Engine
11/10 **Week 11** 11/12	Continue topics of Week 9 Remote sensing application: environmental changes, conservation and social resilience	Selected articles		Lab 10: Continue Labs from Weeks 8&9
11/17 **Week 12** 11/19	Exam 2 (11/17) covers material from Week 6-11 Continue topics of Week 11 on Remote sensing application, Student presentations and discussions (11/19)	Selected articles		Lab 11: Discussion
11/24 **Week 13** 11/26	***Thanksgiving break***			No class Thanksgiving break
12/1 **Week 14** **12/3**	Student presentations and discussions			Student presentations and discussions
12/8 **Week 15** 12/10	Student presentations and discussions		Final project summary due date Dec. 18, 11:59 pm	Student presentations and discussions

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 & Human Nutrition/ SFA

COURSE DESIGNATOR FSN COURSE NUMBER 695 EFFECTIVE SEMESTER Summer2021

COURSE TITLE Food Science and Human Nutrition Practicum

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)

Robert Causey Digitally signed by Robert Causey Date: 2021.02.21 22:04:53 -05'00'

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 2 (FOR COURSE MODIFICATIONS)

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

Supervised professional experience off-campus. May be repeated for a maximum of six credits. (Pass/Fail Grade Only)

Prerequisites & Notes
Permission.

Credits: 1-6

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

Supervised professional experience in an approved professional setting. May be taken once for credit.

Prerequisites & Notes
Permission and acceptance to M.S. in Food Science & Human Nutrition or Ph. D. in Food & Nutrition Sciences. (Pass/Fail Grade only)

Credits: 1-3

Reason for course modification:

Although many of the online graduate students in our M.S. and graduate certificate programs are employed full-time, some are not. We would like to offer the opportunity for M. S. students to receive credit for summer professional experience in a company, government agency, or non-profit organization related to food science or nutrition since online students are not eligible for thesis research. Certificate students only take 12 credits and the faculty felt that those credit should be obtained from formal lecture courses only.

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.

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 School of Forest Resources

COURSE DESIGNATOR SFR COURSE NUMBER 520 EFFECTIVE SEMESTER Fall 2021

COURSE TITLE **Development and Growth of Plants**

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)

Stephen Shaler Digitally signed by Stephen Shaler Date: 2021.01.11 08:53:38 -05'00'

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

Christopher Gerbi Digitally signed by Christopher Gerbi Date: 2021.01.19 13:52:41 -05'00'

College Dean(s)

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):

SFR 520 - Development and Growth of Plants
Understanding patterns of plant development and the regulation of development and growth by both intrinsic processes (gene expression and hormone signaling) and the extrinsic environment. Lec. 3 Offered fall semester, alternate years (even-numbered). Assumes a basic understanding of plant physiology.

Prerequisites & Notes
Graduate standing.

Credits: 3

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

SFR520 - Tree physiology
Topics in tree physiology including carbon, nutrient, and water relations. Emphasis on plant structure-function relationships and responses to abiotic stress. Includes a mix of lecture and hands-on lab activities.

Prerequisites & Notes
Graduate standing.

Credits: 3

Reason for course modification:

New faculty member teaching the course and adjusting to match my expertise and student needs.

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.

Submit a Nomination for a 2021 Award

The CGS Awards Program provides member institutions with opportunities to recognize the accomplishments of colleagues and graduate student alumni. Please take note of the following submission deadlines and fields of competition for the 2021 awards program.

Gustave O. Arlt Award in the Humanities

Established in 1972, this award is presented annually to a scholar-teacher in the humanities. The field of competition for 2021 is the Linguistics and Philosophy. Deadline for submission: **April 30, 2021.**

ProQuest Distinguished Dissertation Awards

These awards are made annually to individuals nominated by a member institution, who have completed dissertations representing original work that makes an unusually significant contribution to the discipline. The fields of competition for 2020 are 1) *Biological Sciences;* and 2) *Humanities and Fine Arts*. Deadline for submissions: **July 2, 2021.**

Assistant and Associate Dean Award

This award recognizes the major impact of assistant and associate deans on the quality of graduate education. Deadline for submission: **August 31, 2021.**

Debra W. Stewart Award for Outstanding Leadership in Graduate Education

This award is given annually to an individual who exemplifies the leadership qualities of the Council's fifth president, Debra W. Stewart. The graduate dean at any CGS Regular or Associate member institution is eligible to be nominated. Deadline for submission: **August 31, 2021.**

ETS/CGS Award for Innovation in Promoting Success in Graduate Education: From Admission through Completion

This award recognizes promising efforts in initiating or scaling up innovations in graduate education that occur from admission through successful completion of a degree program, focusing especially on innovations that promise success of a diverse and inclusive student population. Deadline for submission: **September 10, 2021.**

Nomination materials for the 2021 awards are available on the CGS website.

Proposed Constitutional Amendment to Article III (Graduate Faculty)

Rationale: Recognizing that single accreditation of the University of Maine System raises some questions about the role of faculty from other UMS institutions with regard to teaching UMaine courses and/or possibly serving on student committees. Given that one of the goals of unified accreditation is to facilitate greater interaction and cooperation across UMS institutions, UMS faculty have a potentially greater role in UMaine graduate education than that of external graduate faculty. However, given that UMS institutional missions vary, UMS faculty will not necessarily possess the scholarship qualifications of UMaine graduate faculty, and therefore, programs should have great discretion in the role(s) that other UMS faculty serve. This amendment, therefore, proposes a new category of Graduate Faculty entitled ***UMS Graduate Faculty.***

UMS Graduate Faculty. UMS Graduate Faculty are tenured or hold tenure track faculty appointments at a University of Maine System institution other than the University of Maine. Should two UMS academic units wish to enter a *Cooperating Departments agreement* at the graduate-curriculum level, UMS Graduate Faculty may be assigned UMaine graduate level (500/600) classes. Recognizing the varied missions of the 7 UMS institutions with regard to teaching and scholarship, UMS Graduate Faculty would not necessarily be active participants on student thesis and dissertation committees. However, those faculty members whose academic and research engagement enable them to make an active contribution to a graduate student's research may serve on a committee, as well as co-chair or chair a committee at the discretion of the graduate program and the University of Maine Graduate School.