# Cover Sheet: Request 14167

**MET4410 Radar and Satellite Meteorology**

**Info**

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|---|---|
| Process | Course\|New\|Ugrad/Pro |
| Status | Pending at PV - University Curriculum Committee (UCC) |
| Submitter | Corene Matyas matyas@ufl.edu |
| Created | 8/28/2019 10:02:48 AM |
| Updated | 10/14/2019 12:37:37 PM |
| Description of request | This request is for a new course at the advanced undergraduate level in the Department of Geography. |

**Actions**

| Step | Status | Group | User | Comment | Updated |
|---|---|---|---|---|---|
| Department | Approved | CLAS - Geography 011609000 | Jane Southworth | | 8/28/2019 |
| No document changes | | | | | |
| College | Approved | CLAS - College of Liberal Arts and Sciences | Joseph Spillane | | 10/14/2019 |
| No document changes | | | | | |
| University Curriculum Committee | Pending | PV - University Curriculum Committee (UCC) | | | 10/14/2019 |
| No document changes | | | | | |
| Statewide Course Numbering System | | | | | |
| No document changes | | | | | |
| Office of the Registrar | | | | | |
| No document changes | | | | | |
| Student Academic Support System | | | | | |
| No document changes | | | | | |
| Catalog | | | | | |
| No document changes | | | | | |
| College Notified | | | | | |
| No document changes | | | | | |

# Course|New for request 14167

## Info

**Request:** MET4410 Radar and Satellite Meteorology
**Description of request:** This request is for a new course at the advanced undergraduate level in the Department of Geography.
**Submitter:** Corene Matyas matyas@ufl.edu
**Created:** 10/23/2019 10:52:17 AM
**Form version:** 3

## Responses

**Recommended Prefix** MET
**Course Level** 4
**Course Number** 410
**Category of Instruction** Advanced
**Lab Code** None
**Course Title** Radar and Satellite Meteorology
**Transcript Title** Radar Satellite Meteo
**Degree Type** Baccalaureate

**Delivery Method(s)** On-Campus
**Co-Listing** No

**Effective Term** Earliest Available
**Effective Year** Earliest Available
**Rotating Topic?** No
**Repeatable Credit?** No

**Amount of Credit** 3

**S/U Only?** No
**Contact Type** Regularly Scheduled
**Weekly Contact Hours** 3
**Course Description** An overview of radar and satellite remote sensing as used in the atmospheric sciences, including the principles of atmospheric radiative transfer, the retrieval of atmospheric variables, and emphasis on geospatial interpretation of imagery for different weather systems
**Prerequisites** PHY2049 & MET3503
**Co-requisites** N/A
**Rationale and Placement in Curriculum** We are building a sequence of courses for a new major in meteorology. In this advanced course, students take what they have learned in their intermediate-level coursework where they studied how weather systems form and evolve and basic terminology, and apply those concepts to interpretation of remotely-sensed data about the atmosphere. They will learn about the types of equipment needed to perform remote sensing of the atmosphere and how the equipment works along with review of the basic principles of radiation. Four weeks are spent on the interpretation of images and relating them to atmospheric conditions and weather systems to emphasize the applied nature of the course and focus on atmospheric science rather than engineering or physics. Geography is the only department on campus offer meteorology courses (Physics has agreed to transfer MET1010 to Geography and that process is underway) and will house the new meteorology major. No current courses in the undergraduate catalog claim to teach students how to use geospatial tools to interpret weather systems using remotely-sensed data from radars and satellites.
**Course Objectives** • Discuss the development of remote sensing instrumentation, scanning strategies, and advances in technology that improve data resolution
- Interpret weather-related features in remotely-sensed imagery
- Calculate changes in weather-related features over space and time
- Relate atmospheric conditions to different patterns in remotely-sensed imagery

**Course Textbook(s) and/or Other Assigned Reading** Satellite Meteorology: An Introduction (Kidder and Vonder Haar, Academic Press, 1995)
Radar for Meteorologists (Rinehart, 5th edition, 2010)
**Weekly Schedule of Topics** Week 1: Introduction to and Overview of Remote Sensing
Week 2: Brief history of radar & satellite meteorology
Week 3: Basics of Atmospheric Radiation 1: wave, frequency, energy
Week 4: Basics of Atmospheric Radiation 2: flux and intensity
Week 5: Laws of Emission and absorption
Week 6: Scattering, reflection, refraction
Week 7: Review and Midterm Exam
Week 8: Ground-based radar instrumentation, scanning strategies, and products
Week 9: Meteorological radar targets and interpretation
Week 10: Meteorological radar interpretation
Week 11: Meteorological satellite instrumentation and orbits
Week 12: Meteorological Satellite interpretation
Week 13: Meteorological Satellite interpretation
Week 14: Oral Presentation of final projects and peer evaluations of presentations
Week 15: Revision of final projects, Review for final exam
Week 16: Final Exam: Consult university schedule for our class time
**Grading Scheme** Assignment Percentage
Quizzes (5 at 4% each)

20
Interpretation Exercises (4 at 5% each)

20
Exams (2 at 15% each)

30
Final Project (outline, peer evaluation, project write-up and oral presentation) 20
Discussion Board Q and A (posts in 10 weeks at 1% each week) 10

Grading Scale:
A: 93% +
A-: <93% to 90%
B+: <90% to 87%
B: <87% to 83 %
B-: <83% to 80%
C+: <80% to 77%
C: <77% - 73%
C- : <73% to 70%
D+: <70% to 67%
D: <67% to 63%
D- : <63% to 60%
E: < 60%

**Instructor(s)** Dr. Corene Matyas
**Attendance & Make-up** Yes
**Accomodations** Yes
**UF Grading Policies for assigning Grade Points** Yes
**Course Evaluation Policy** Yes