

University of Northern Colorado
College of Natural and Health Sciences
Office of Extended Studies

MET 595-946: Meteorology for Educators
Syllabus

Be very, very careful what you put into that head, because you will never, ever get it out.
Thomas Cardinal Wolsey (1471-1530)

Instructor: Dr. Michael J. Urban
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Office Location: N/A

Office Hours: Tues: 9-10 a.m. MST
Wed: 12-1 p.m. MST

Dates: Jan. 25-May 7, 2010

Texts: Smith, P.S., & Ford, B.A. (1999). *Project Earth Science: Meteorology*. NSTA Press.
(NSTA's price - \$28 plus shipping) ISBN: 978-0-87355-123-6
(Referred to as PESM in the course outline below)

Robertson, W.C. (2005). *Air, Water, & Weather: Stop Faking It! Finally Understanding Science So You Can Teach It*. NSTA Press.
(NSTA's price - \$20 plus shipping) ISBN: 978-0-87355-238-7
(Referred to as AWW in the course outline below)

Both texts are available at <http://store.nsta.org> although you are welcome to obtain them wherever they are available.

Credit Hours: 3 graded on an A-F basis (standard percentage: 90-100% = A, 80-89% = B, etc.)

Overview:

This is an on-line course designed for science teachers and those who have a background in some form of science; many activities will be provided that can be adapted for middle-school or high-school science programs. The goal is to provide an understanding of the atmosphere and to enable teachers to make basic forecasts of the weather using information available through the internet. Additionally, common meteorology-related misconceptions will be addressed. Math is limited to algebra for this course.

Course Requirements:

- ✓ Basic background in science
- ✓ Access to the internet (high speed access preferred)
- ✓ Access to a computer with word processing, spreadsheet, and presentation media (such as Word, Excel, and Powerpoint or equivalent programs)

Recommended:

- ✓ Capability to download and utilize Google Earth

All assignments are due on time; no late work will be accepted.

Grading:

Activities/Projects	30%	Weather Log/Weekly WX	25%
Meteorology Lessons	30%	Participation/Discussion	15%

Activities/Projects:

These include weekly or bi-weekly activities, laboratory exercises, or projects designed to familiarize you with weather-related topics. Many can be modified for use in middle and secondary science classrooms (or elementary). These activities/projects will allow you to apply and practice the “science” related to meteorology. These may include write-ups and reports related to lab investigations. Additionally, you are encouraged to consider the potential “misconceptions” associated with the activities.

Meteorology Lessons:

As the name implies, assignments in this category are designed to provide you with opportunities to study meteorology-related information, create unit and lesson plans geared toward the level you teach (or plan to teach), and present your lessons in Blackboard for peer review.

Weather Log & Weekly Weather:

The “weather log” is a summary of weather observations and reflections for one week during the semester. It is designed to be an opportunity for you to make connections between the “visual observations” that you record, reading/interpreting weather forecasts, and considering how the information can be used in your classroom (by you and your students).

Each week a student (or group of students) will be assigned responsibility for keeping us updated on weather-related activity in our area and around the country (United States) for the week by posting a link to the NWS forecast page for Greeley, briefly discussing the forecast, and discussing other interesting weather developments. Examples “interesting weather developments” include discussions of: *severe weather events in the Greeley/Denver/Fort Collins area; hurricane activity; weather in the news (around the country); large hail events; breakthroughs in cloud-seeding techniques; etc.* The group presenters must post in the discussion; all other students **may** post, but are not required to. Other students should check in routinely, and add comments as desired.

**The majority of assignments from the above categories will have explicit directions given for them in Blackboard.*

E-mail and Discussion Thread Etiquette

It is often possible to give somebody the wrong impression when communicating in the online venue (since we cannot “see” the sarcasm, grins, or other facial expressions we are used to). Because the course needs to be a *safe* and *respectful* place for everybody, I request that before you submit a discussion post (or e-mail) you take an extra moment to make sure that you have fully explained your comments and that you have said what you really wanted to say. Also, try to limit all of your individual discussion posts to less than 200 words each.

Participation/Discussion:

The course meets online, and despite not having any face-to-face interactions, students can and should “meet” digitally via threaded discussions (through Blackboard). As part of your course grade, you are expected to *participate* in these online discussions. These discussions are where the real “magic” of the

course can take place, as teachers can share their experiences about what works and what does not work.

Each week a student (or group of students) will be assigned to start a discussion related to the educational implications of the week's assigned reading material(s)/topic(s), foreseeable student struggles with the material, or content challenges associated with teaching or Colorado State Science standards. This is a great opportunity to exchange ideas and resources.

All students are expected to:

- make at least two discussion postings each week
 - the first one by Saturday at 11:59 p.m. EST
 - the second after Saturday but before Tuesday at 11:59 p.m. EST

You should strive to contribute a meaningful thread each time. A **meaningful discussion contribution** is one that:

1. carefully considers previous messages
2. demonstrates thoughtful contribution
3. moves the discussion forward (may involve asking another question)

Grading of discussion posts (rubric):

Full credit (2 pts):	Partial credit (1 pt):	No credit (0 pts):
<ul style="list-style-type: none"> • Two meaningful posts • Posts occur at beginning and end of week • Strong effort is demonstrated 	<ul style="list-style-type: none"> • One meaningful post • Multiple posts on the same day or same part of the week • Some effort, but room for improvement • Appears rushed or unfocused 	<ul style="list-style-type: none"> • Little or no participation • Discussion posts are late • More effort is needed

*You may *post as many times as you want* in the discussion threads, but there needs to be a minimum of two separate posts on two separate days.

E-mail Requirement

You should use your University of Northern Colorado, or school-affiliated e-mail address, for the purposes of this course. I will not be held responsible for messages that get caught in the SPAM filter.

Disability Support Services

Students who believe that they may need accommodations in this class are encouraged to contact the UNC Disability Support Services at 970-351-2289 as soon as possible to ensure that accommodations are implemented in a timely fashion.

Honor Code

All members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: *Honesty, Trust, Respect, Fairness, and Responsibility*. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.

UNC's Policies

UNC's policies and recommendations for academic misconduct will be followed. For additional information, please see the Dean of Student's website, Student Handbook link <http://www.unco.edu/dos/handbook/index.html>

Additional Administrative Information (required on syllabus)

Library Services for Distance Education and Off-Campus Students:

Obtaining Materials from UNC Libraries

Off-campus students residing within 50 miles of the UNC campus are required to come to the library and borrow materials in person. Students residing more than 50 miles from campus may request that materials be delivered to them. All requests must include complete citations. We will supply materials from the UNC Libraries, as well as materials from other libraries obtained via Interlibrary Loan. Articles will be delivered via email. Books will be mailed first class. Delivery time by U.S. postal service is approximately 1 week. It is the responsibility of the student to return books by the date due. UNC does not pay return postage on books. For information on document delivery, call (970) 351-1446.

Requests for materials may be made through the following methods:

Online: <http://www.unco.edu/library/forms/distancerequest.htm>

By email: library.ocp@unco.edu

By fax: (970) 351-2540

Notice

The Office of Extended Studies reserves the right to cancel or reschedule courses based upon enrollment. Enrolled students will be contacted with information of any change.

Student Satisfaction Evaluation

Participants will be asked to evaluate the course for instructors' knowledge, interest and enthusiasm as well as providing additional information on classes or topics which you would like to see developed as a future offering from UNC.

Course Withdrawal Information

In accordance with University and Colorado Department of Higher Education policy, if you drop this class after the course starts you will be assessed a drop fee. The drop fee is pro-rated up to the half-way point in the class. You are legally responsible for payment of full tuition once 50% of this course has been concluded. In order to be eligible to receive any refund of tuition, you must contact the Office of Extended Studies (1-800-232-1749) to formally withdraw from your

class. Your refund, if applicable, will be based on the date of contact with our office. Withdrawals received via telephone during non-business hours will be processed and dated on the next working day. Failure to notify us will result in UNC tuition being owed even though you do not attend or complete the coursework.