

MET3502L / MET5561L: Welcome to Synoptic & Midlatitude Synoptic Meteorology Lab

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- Office Hours: By Appointment through email
- Website: [Faculty Website \(Links to an external site.\)](#)
- Turn Around: Within 24 - 48 hours

Course Time Zone | Eastern Time (ET). Course due dates are according to this time zone.

General Information

Course Description and Purpose

This course focuses on analysis and forecasting of mid-latitude weather systems. The lab is vital to the MET3502/MET5561 lecture course content. A series of lab assignments will help students understand the course materials in the deeper sense. Students who complete both the lecture course and the lab will have a good start toward the essentials of the Forecaster's Art. We will pay close attention to daily weather. The lab assignments include hand-drawing of weather maps and practicing of weather forecast discussions to develop an understanding of the weather forecasting process and gain experience in communicating weather forecasts. Graduate students will have the opportunity to work on a research-related literature review and term paper report to increase their ability to utilize knowledge learned in their research/thesis work. This course includes 7 modules with 8 lectures as your learning materials. There will be WxChallenge competition participation throughout the semester and 7 lab assignments as assessments for all students. For graduate students, there will be a term paper due by the end of the semester.

Course Objectives

Upon completing this course, students will be able to:

- CLO1: Make real-time weather discussion and forecasting using tools learned in synoptic meteorology
- CLO2: Apply physical principles of atmospheric thermodynamics into real-world problems
- CLO3: Analyze observational data on geospatial weather maps

Important Information

Policies

Before starting this course, please review the following pages:

- [Policies](#)
- [Netiquette](#)
- [Technical Requirements and Skills](#)
- [Accessibility and Accommodation](#)
- [Panthers Care & Counseling and Psychological Services \(CAPS\)](#)
- [Academic Misconduct Statement](#)
- [Copyright Statement](#)
- [Inclusivity Statement](#)

Course Prerequisites

Prerequisite or co-requisite: MET3502 Synoptic Meteorology or instructor's permission.

Textbook and Course Materials

- **Textbook Title (Required/Optional)**
- Publisher, Edition, Year
- ISBN-10
- ISBN-13
- You may purchase your textbook online at the [FIU Bookstore](#).

No textbook required for this class.

Expectations of this Course

This is an online course, which means most (if not all) of the course work will be conducted online. Expectations for performance in an online course are the same as a traditional course. In fact, online courses require a degree of self-motivation, self-discipline, and technology skills which can make these courses more demanding for some students.

Students are expected to:

- **review the getting started page** located in the course modules;
- **introduce yourself to the class** during the first week by posting a self-introduction in the appropriate discussion;
- **take the practice quiz** to ensure that your computer is compatible with the learning management system, Canvas;
- **interact** online with instructor and peers;
- **review** and follow the course calendar and weekly outlines;
- **log in** to the course **2 times** per week;
- **respond** to discussions by the due date specified. **No late work will be accepted;**
- **respond to emails** within 1-2 **days;**
- **submit** assignments by the corresponding deadline.
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The instructor will:

- log in to the course **once** week;
- respond to **emails** within **24-48 hours;**
- grade assignments within 7-14 **days** of the assignment deadline.

Course Detail

Course Communication

Communication in this course will take place via the Canvas Inbox. Check out the [Canvas Conversations Tutorial](#) or [Canvas Guide](#) to learn how to communicate with your instructor and peers using Announcements, Discussions, and the Inbox. I will respond to all correspondences **via email not the Canvas inbox** within **24 - 48 hours**.

Discussion Forums

Keep in mind that your discussion forum postings will likely be seen by other members of the course. Care should be taken when determining what to post.

The only discussion will be the default & optional “introduce yourself” discussion at the beginning of the class.

Assignments

1. **WxChallenge Competition Registration and Participation:** Students are required to sign up the nation-wide WxChallenge competition and participate the weather forecast competition for 5 cities throughout the semester as provided on the WxChallenge website (<https://www.wxchallenge.com/>). Information about how to sign up and participate online will be given during the first module. Registration and participation are separated into two assignments.
2. **Lab Assignments:** There will be 7 lab assignments, one for each module. Rubrics for grading will be posted on Canvas.
3. **Graduate Term Paper:** Graduate students are required to do a literature review on a research topic of your choice (better related to your research/thesis/dissertation project). You are required to write a term paper report of 5-10 pages on the literature review. You don't have to include any results of yourself (You absolutely can if you do). Instead, you should just write a background review of this topic. You should read about 5-10 reference papers in this topic, and read them carefully and summarize their research methods & findings. Your paper should be 5-10 pages long (single-spaced, font size 12). Rubric for evaluation will be posted on Canvas.

Zoom Video Conference

Zoom is a video conference tool that you can use to interact with your professor and fellow students by sharing screens, chatting, broadcasting live video/audio, and taking part in other interactive online activities. We will be utilizing this tool to conduct the optional WxChallenge Information Meeting below:

Topic: WxChallenge Information Zoom Meeting

Tentative Time: Jan 18, 2022 05:30 PM Eastern Time (US and Canada)

Zoom meetings can be accessed via the Zoom link in the course navigation menu. Once you click on the Zoom link, it will route you to join the meeting for the respective class session. You will also be able to view upcoming meetings, previous meetings that you have already joined, and meeting recordings. Before joining an actual class session:

- Reference the [Zoom Student Tutorials](#) to learn about the tool, how to access your meeting room, and share your screen.
- Access the [Zoom Test Meeting Room](#) to test out the software before joining an actual session.

If you encounter any technical difficulties, please contact the [FIU Canvas Help Team](#). Please ensure you contact support immediately upon the issue occurring.

Undergraduate Grading

MET3502L Undergraduate Course Grades Distribution Table				
Course Requirements	Number of Items	Points for Each	Total Points	weight
WxChallenge	2	20/180	200	30%
Lab 1	1	100	100	10%
Lab 2	1	100	100	10%
Lab 3	1	100	100	10%
Lab 4	1	100	100	10%
Lab 5	1	100	100	10%
Lab 6	1	100	100	10%
Lab 7	1	100	100	10%
Total	9	N/A	900	100%

Graduate Grading

MET5561L Graduate Course Grades Distribution Table				
Course Requirements	Number of Items	Points for Each	Total Points	weight
WxChallenge & graduate term paper	3	20/180/100	300	30%
Lab 1	1	100	100	10%
Lab 2	1	100	100	10%
Lab 3	1	100	100	10%
Lab 4	1	100	100	10%
Lab 5	1	100	100	10%
Lab 6	1	100	100	10%
Lab 7	1	100	100	10%
Total	10	N/A	1000	100%

Letter Grade Distribution Table					
Letter	Range%	Letter	Range%	Letter	Range%
A	95 or above	B	83 - 86	C	70 - 76
A-	90 - 94	B-	80 - 82	D	60 - 69
B+	87 - 89	C+	77 - 79	F	59 or less

Course Calendar

Course Calendar

Module Dates	Topics, Readings, & Resources	Activities Due
Module 1 Jan. 9-20 (2 weeks)	Lecture 1: Skew-T Review Lecture 2: WxChallenge Overview	Lab 1: Skew-T analysis Available on Jan. 9, Due on Jan. 20. WxChallenge competition 1: proof of registration: available on Jan. 9, Due Jan. 23 Graduate Term Paper: Available on Jan. 9, Due on Apr. 21
Module 2 Jan. 23-Feb.3 (2 weeks)	Lecture 3: Surface weather elements	Lab 2: Surface observations Available on Jan. 23, Due on Feb. 3.
Module 3 Feb. 6-17 (2 weeks)	Lecture 4: Contour analysis	Lab 3: Contour analysis by hand-drawing: Isobars Available on Feb. 6, Due on Feb. 17.
Module 4 Feb. 20-24 & Mar. 6-10 (2 weeks)	Lecture 5: Weather discussion method and internet resources	Lab 4: Weather discussion video Available on Feb. 20, Due on Mar. 10.
Module 5 Mar. 13-24 (2 weeks)	Lecture 6&7: Airmasses, fronts, and frontal analysis	Lab 5: Isotherm and Isodrotherm Analysis by handing drawing Available on Mar. 13, Due on Mar. 24.
Module 6 Mar. 27 - Apr.7 (2 weeks)	Lecture 6&7: Airmasses, fronts, and frontal analysis	Lab 6: Surface frontal analysis by hand drawing Available on Mar. 27, Due on Apr. 7.
Module 7 Apr. 10- 21 (2 weeks)	Lecture 8: Interpreting weather maps	WxChallenge competition 2: Proof of participation for 5 cities: Available on Apr.10, Due on Apr. 21. Lab 7: Upper air analysis by hand drawing Available on Apr. 10, Due on Apr. 21.