

EESA09H3 – Wind (web-option)

Instructor: *Tanzina Mohsin*

Room: *EV364*

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Office Hours (applicable until July31)

Mondays: 11:30 am to 12:30 pm starting May 15th

Other Times: By appointment via email

Teaching Assistants:

Andrew Apostoli (participations/quizzes)- andrew.apostoli@mail.utoronto.ca

Raul S. Sreyes (midterm+quizzes+final) - raul.salasreyes@mail.utoronto.ca

Lecture Posting Time: Every Wednesday starting May 3rd (except the reading week)

Course Description

A survey of the science, history and applications of wind. Topics include storms including hurricanes, tornadoes and midlatitude cyclones, global circulation, local circulations, measurement of winds, impact of winds on land surfaces, wind power, winds and pollution, historical and literary winds, and contemporary wind research. No prior knowledge of environmental science is required.

Tentative Lecture List

1. Introduction to Wind	Week 1
2. Global Wind Circulation	Week 2
3. Hurricanes	Week 3
4. Midlatitude Cyclones	Week 4
5. Thunderstorms and Tornadoes	Week 5
6. Polar lows and other storms/Midterm	Week 6
7. Reading week	Week 7
8. MIDTERM (tentative)/Lecture	Week 8
9. Local Wind Circulation: Thermal winds	Week 9
10. Measurement of wind	Week 10
11. Wind and Pollution	Week 11
12. Wind as a source of Power	Week 12
13. Changing wind with Climate Change	Week 13

Evaluation

Midterm Test: 30%

Participation (quizzes + participation assignments) =20%

Final Exam: 50%

Quizzes will be posted on the blackboard and there will be due date assigned to the quizzes. Each quiz will cover the materials from the same week lecture. If you miss a quiz, there is no makeup and you will miss out a participation opportunity. Participation opportunities will also be available, to a maximum of 10 marks. All participations should be submitted to via blackboard. Detail of the quizzes and participations will be discussed during the lecture and will be posted on the blackboard.

Required Text

There is no text book assigned to this course. All lectures with supplementary (explanatory) materials will be posted on the course web site on the blackboard. If you are interested to learn more on the topics covered in this course you can use the following reference as an additional source.

“Understand Weather and Climate” – Edward Aguado and James E. Bert.

Reading research papers

In each lecture, a research paper will be introduced on the relevant topic. You are required to read the paper as soon as it is posted on the blackboard.

To study a research paper, follow the steps below.

1. Reading through a given paper once without taking notes, to get an overview of the paper. You should read critically (not passively), by asking yourself such questions as – what research questions the authors are asking? What are the major steps (assumptions/methodologies) taken to answer the questions? How does this reading relate to other readings and most importantly, to the lecture material? Do not use a highlighter at this stage – only when you’ve read it all can you judge; what are the most important points in terms of the results!
2. Reading the paper a second time, in order to take notes. You should record a minimum of 3 main points per paper, but *never* take more than one page of notes from a given paper. If you should fill up a whole page with notes, organize your notes in some structured way so that you can see the relationships between the key points in a simple way. It is harder to take brief notes than to take copious notes, because in making brief notes you have to think more about what you are reading so as to be able to choose the key points and structure them in such a way that they are easy to remember.

Midterm

Must be written in person. **NO EXCEPTION.** Time and place to be announced. ***I expect all students to write the midterm exams except under the most severe and exceptional circumstances.*** I will not accept having a cold, a stomach ache, or headache, or something of that sort as a valid reason for not writing any midterm.

If, for some extraordinary reason, you do miss a midterm, please notify me within 24 hours of the exam in person or by email. A non-vague note from a doctor will be required on the **U of T medical form**.

Midterm and Final exam format

Same format for both exams, only differing in quantity.

1. Who is who (or, fill in the blank)
2. True or false questions and Multiple choice questions
3. Short answer questions
4. Summary of Research Paper

How to study for the exams

You should consult the lecture notes (will be posted after each lecture) in addition to the lecture slides, for the exams. The major topics are elaborated in the lecture notes. In order to understand a specific topic and to describe it in detail on the exam paper the notes are very helpful. The lecture slides are guide to study the topics. However, studying only lecture notes are also not recommended because lecture slides have figures, plot, pictures and other information that are not available in the notes.

Emails

I welcome communication by email concerning the issues related to the course. However, I will delete without answering any emails asking me what is covered on the term tests or final exam, any questions regarding participations (can be found on the blackboard), which will be always available on the blackboard. In addition, I always assign office hours to pick up a term test (can be picked up only during the scheduled time posted on the blackboard). Include **EESA09 in the subject line** of your emails (this especially makes it easier to find your email later). **Although I provide email address to communicate on course matters, I encourage that you discuss your urgent concerns/questions in person during office hours. YOU CAN ONLY USE THE EMAIL LISTED AT THE TOP OF THIS COURSE OUTLINE.**

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