

## EESA09H3 – Wind (L99, online)

*Instructor: Tanzina Mohsin*

*Room: EV364*

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*Office Hours (applicable until August 1):*

**Wednesdays: 12:30 pm to 1:30 pm**

*Other Times: By appointment via email*

*Teaching Assistants:*

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**Lecture posting day:** Wednesday of each week starting on May 8th

**Mandatory in person evaluation:** The students must write the midterm, final exam and attend weather station tour in person.

### **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.

### **Grading Scheme**

**Midterm Test - 30%**

**Participation (quizzes + participation assignments) 15%**

**Contemporary analysis of wind related issues – 5%**

**Final Exam - 50%**

Quizzes will be posted on the Querqus and there will be due date assigned to the quizzes. Each quiz will cover the materials from the previous week lecture. If you miss a quiz, there is no makeup and you will miss out a participation grade. Participation opportunities will also be available, to a maximum of 7 marks. All participations can be submitted through the Querqus as well except weather station tours. As mentioned in the lecture that weather station tour requires you to be present at the campus which will start end of June or beginning of July.

Detail of the quizzes and participations including contemporary analysis of wind issues will be discussed during the lecture and will be posted on the Querqus. If you miss a participation opportunity, then there is no makeup. As mentioned in the lecture that weather station tour requires you to be present at the campus which will start end of June or beginning of July.

**KEEP IN TOUCH THROUGH QUERCUS ANNOUNCEMENT IF YOU DON'T WANT TO MISS A QUIZ OR PARTICIPATION.**

**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 Querqus. 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.

**Tentative Lecture List**

<b>1. Lecture on overview of WIND</b>	<b>Introduction</b>
<b>2. Science of WIND</b>	<b>Lecture 2</b>
<b>3. Global Wind Circulation</b>	<b>Lecture 3</b>
<b>4. Hurricanes</b>	<b>Lecture 4</b>
<b>5. . Midlatitude Cyclones</b>	<b>Lecture 5</b>
<b>6. Thunderstorms and Tornadoes</b>	<b>Lecture 6</b>
<b>7. Reading week</b>	<b>No lecture will be posted</b>
<b>8. Polar lows and other storms</b>	<b>Lecture 7</b>
<b>9. Local Wind Circulation: Thermal winds</b>	<b>Lecture 8</b>
<b>10. Measurement of wind**</b>	<b>Lecture 9</b>
<b>11. Wind and Pollution**</b>	<b>Lecture 10</b>
<b>12 Wind Power</b>	<b>Lecture 11</b>
<b>13. Changing wind with Climate Change</b>	<b>Lecture 12</b>
<b>MIDTERM*</b>	<b>TBA</b>

*\*The exact date depends on the availability of the rooms. The midterm will cover the lectures up to the week before the midterm.*

*\*\*Please note that Lecture 9 and 10 will be posted as one lecture recording.*

**Reading research papers**

In some lectures, 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 Querqus.

**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**

Date, time and place will be announced on the Querqus. You will have to write in person. 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 the 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. Section one: Who is who ( or, fill in the blank)
2. Section two True or false questions/Multiple Choice Questions
3. Section three: Definitions
4. Section four: Short answer questions
5. Section five: Summary of the Research Papers

**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 preparation of 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.

PLEASE NOTE THAT THE VIDEOS THAT ARE USED DURING LECTURE OR USED FOR PARTICIPATION OUTSIDE OF LECTURE ARE IMPORTANT FOR MIDTERM AND FINAL EXAM.

### *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 Querqus), which will be always available in the lecture slides. 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 Querqus). 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 urgent course related matter, I encourage that you discuss your concerns/questions in person during office hours, which is basically the only time to connect with your instructor given it is an online course. YOU CAN ONLY USE THE EMAIL LISTED AT THE TOP OF THIS COURSE OUTLINE.**

### **Copyright statement**

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