EXPANDED COURSE DESCRIPTION
EARTH, SPACE SCIENCE AND ENGINEERING
Lassonde School of Engineering
Earth and Space Science and Engineering
LE / ESSE 4120 3.0 SECTION A
CLOUD PHYSICS AND RADAR METEOROLOGY
FALL 2017 / WINTER 2018

Last Modified Date: 08/18/2017

COURSE CALENDAR DESCRIPTION


INSTRUCTOR(S)

<table>
<thead>
<tr>
<th>Name</th>
<th>Section / Format / Term</th>
<th>Contact Email</th>
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<tbody>
<tr>
<td>Gordon, Mark D</td>
<td>Sec. A / LECT / F</td>
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TOPICS AND CONCEPTS

For more information on this course, please visit the following website: https://learn.lassonde.yorku.ca/

Topics for this course include:
1. Thermodynamics of Dry Air
2. Water Vapour and its Thermodynamic Effects
3. Parcel Buoyancy and Atmospheric Stability
4. Mixing and Convection
5. Formation of Cloud Droplets
6. Droplet Growth by Condensation
7. Initiation of Rain in Nonfreezing Clouds
8. Formation and Growth of Ice
9. Principals of Radar
10. Radar and Precipitation
11. Doppler and Polarized Radar

LIST OF LEARNING OUTCOMES AND EXAMPLES OF

By the end of the course, students should be able to:
1. Use thermodynamic variables to describe the atmosphere and express the relationship between these variables.
2. Analyze thermodynamic processes of the atmosphere though fundamental equations and graphical tools (such as tephigrams).
3. Evaluate cloud droplet and crystal growth and evaporation using fundamental knowledge of micro-physical processes
4. Critique the principals of Radar use relating to precipitation.
5. Apply differential equations to relate radar signals to distributions of precipitators.
ADDITIONAL INFORMATION


References:

ACADEMIC INTEGRITY LINKS
- Senate Policy on Academic Honesty - http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/
- Academic Integrity - http://lassonde.yorku.ca/academic-integrity

STUDENT LINKS
- Student Rights and Responsibilities - http://oscr.students.uit.yorku.ca/student-conduct
- Religious Observance - https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs
- Counselling and Disability Services - http://cds.info.yorku.ca/

Many courses utilize Moodle, York University’s course website system. If your course is using Moodle, click here to access it.

*Moodle @ York University*