ENVS3102
Urban Climate and Air Quality
Session 1, Weekday attendance, North Ryde 2021

Archive (Pre-2022) - Department of Earth and Environmental Sciences

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Notice
As part of Phase 3 of our return to campus plan, most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to timetable viewer. To check detailed information on unit assessments visit your unit’s iLearn space or consult your unit convenor.
General Information

Unit convenor and teaching staff
Unit Convenor
Paul Beggs
paul.beggs@mq.edu.au
Please email for an appointment

Vladimir Strezov
vladimir.strezov@mq.edu.au

Credit points
10

Prerequisites
(130cp at 1000 level or above) including (GEOS216 or ENVE216 or ENVS216 or ENVS2116 or EESC2160)

Corequisites

Co-badged status

Unit description
More than half of the world's population lives in urban areas, and virtually all countries are becoming increasingly urbanised. Australia is one of the most urbanised countries in the world, with about 90% of our pollution living in urban areas. For these reasons, urban climate and air quality are extremely important, directly influencing the health and wellbeing of billions of people around the world. This unit explores urban climate and air quality through detailed study of interactions between the atmosphere and the Earth’s surface in the relatively thin veneer of air that we live in known as the planetary boundary layer. The unit will be of interest to all students in science and engineering and more generally any student with an interest in the environment, and provides knowledge and skills that will be of value for a range of careers and employers, ranging from environmental consultancy and local and state government, to private industry.

Important Academic Dates
Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes
On successful completion of this unit, you will be able to:
ULO1: describe urban climate and air quality, including the physical, chemical and
biological processes operating to produce or change the state of the urban atmosphere.

ULO2: demonstrate knowledge and conceptual understanding of the dispersive
capabilities of the atmospheric environment near the surface of the earth, how pollutants
emitted into the atmospheric environment move and interact with the surface.

ULO3: examine and integrate scientific information from various primary and secondary
sources.

ULO4: apply practical knowledge to undertake analysis of climate and air quality data.

ULO5: demonstrate practical laboratory and field based skills associated with typical
measurement problems in the field of climate science.

General Assessment Information
Details of the Literature Review and Scientific Report assessments will be provided in Weeks 1
and 8 respectively.

The Literature Review and Scientific Report assessments must be submitted via Turnitin (a link
will be provided on the iLearn web site for the unit). Quizzes 1-4 will be completed in iLearn.

Late assessment submissions are permitted and the penalty to be applied to late submissions
will be 10% of the assessment value per day (e.g., an assessment weighted at 20% will be
penalised at 2% per day).

Extension requests should be directed to the Unit Convenor.

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific report</td>
<td>20%</td>
<td>No</td>
<td>Friday 28 May 2021</td>
</tr>
<tr>
<td>Literature review</td>
<td>20%</td>
<td>No</td>
<td>Thursday 1 April 2021</td>
</tr>
<tr>
<td>Quizzes</td>
<td>60%</td>
<td>No</td>
<td>Quiz1: Week 4; Quiz2: Week 8; Quiz3: Week 10; Quiz4: Week 13</td>
</tr>
</tbody>
</table>

Scientific report
Assessment Type: Report
Indicative Time on Task: 20 hours
Due: Friday 28 May 2021
Weighting: 20%
Scientific report of urban climate and air quality topic.

On successful completion you will be able to:

• describe urban climate and air quality, including the physical, chemical and biological processes operating to produce or change the state of the urban atmosphere.
• apply practical knowledge to undertake analysis of climate and air quality data.

**Literature review**

Assessment Type 1: Literature review
Indicative Time on Task 2: 19 hours
Due: **Thursday 1 April 2021**
Weighting: **20%**

Literature review of urban climate and air quality topic.

On successful completion you will be able to:

• describe urban climate and air quality, including the physical, chemical and biological processes operating to produce or change the state of the urban atmosphere.
• examine and integrate scientific information from various primary and secondary sources.

**Quizzes**

Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 20 hours
Due: **Quiz1: Week 4; Quiz2: Week 8; Quiz3: Week 10; Quiz4: Week 13**
Weighting: **60%**

Four quizzes throughout the session.

On successful completion you will be able to:

• describe urban climate and air quality, including the physical, chemical and biological processes operating to produce or change the state of the urban atmosphere.
• demonstrate knowledge and conceptual understanding of the dispersive capabilities of the atmospheric environment near the surface of the earth, how pollutants emitted into the atmospheric environment move and interact with the surface.
• examine and integrate scientific information from various primary and secondary sources.
• apply practical knowledge to undertake analysis of climate and air quality data.
• demonstrate practical laboratory and field based skills associated with typical measurement problems in the field of climate science.
1 If you need help with your assignment, please contact:
   - the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
   - the Learning Skills Unit for academic skills support.

2 Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

**Delivery and Resources**

**Classes**

There is a two hour Workshop and a three hour Practical for this unit that you are expected to attend each week. See the University Class Timetable for details (https://timetables.mq.edu.au/2021/).

**Required Text**

The required text for this unit is:


The Library provides online access [QC981.7.U7 O34 2017].

Also highly recommended:


**Unit Schedule**

See the iLearn web site for the Unit Schedule.

**Policies and Procedures**

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

**Student Code of Conduct**

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

**Results**

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

**Student Support**

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

**Learning Skills**

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- **Getting help with your assignment**
- **Workshops**
- **StudyWise**
- **Academic Integrity Module**

The Library provides online and face to face support to help you find and use relevant information resources.

- **Subject and Research Guides**
- **Ask a Librarian**

**Student Enquiry Service**

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

**Equity Support**

Students with a disability are encouraged to contact the Disability Service who can provide
appropriate help with any issues that arise during their studies.

**IT Help**

For help with University computer systems and technology, visit [http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/). The policy applies to all who connect to the MQ network including students.