BOSTON UNIVERSITY SYDNEY INTERNSHIP PROGRAM

CAS GE 330 Sustainable Sydney – Sustainable Australia

Course Co-ordinators:
Dr. Delphine Rabet (delrabet@yahoo.com)
Gordon Hinds (gordon@thpads.com)

This course covers the theory and practice of urban sustainability in Australia, with a particular focus on any distinction between these lines of enquiry. Each of the lecturers brings a divergent approach to the subject with their complementary specializations providing a balance of argument and evidence.

Dr. Delphine Rabet has had a long interest in domestic and global environmental politics and economics; she has presented numerous conference papers at forums around the world. She leads the classroom exploration and discussion of theoretical advances in the field of urban sustainability, through the lenses of scientific and political/economic policies. Her particular interest is in how sustainability efforts in Australia compare in a global context.
Gordon Hinds comes from a background in business and industry, having often focused on sustainability as a new area of economic opportunity. He draws on his own experience from sustainable investment and entrepreneurship to lead students on fieldtrips – both within the city and rural communities – where they can assess first hand the impact of sustainable practices on the city and the regional centre. Students are thus positioned to determine whether or not the practices they explore connect with, or disconnect from, the theoretical ideals of political and economic debate.

Central to the dual formats of this course, under such co-coordination, is the opportunity for students to understand both the scientific and societal behavioral issues that impact upon concepts and models of sustainability.

**Guest lectures**
Where appropriate, guest speakers who are specialists in their field will be invited to address the class.

**Course Contact**
42 hours (plus some required field trip hours)

**Field Trips**
*Attendance at all field trips is required.*
There is one overnight field trip to the Hunter Valley region.
At least 2 -3 other local fieldtrips are also planned.

**Course Synopsis**
We only have one earth. There is no spare. The way we live and consume is increasingly acknowledged as being unsustainable. Most experts claim that we will run out of resources. So what are our plans? How could we become better citizens of the earth? Can we live in more sustainable ways?

This course aims to provide a thorough introduction to the challenges facing Urban Sustainability, using Sydney as the urban model. As factors beyond the metropolitan area have an impact on the sustainability of Sydney, fieldtrips to rural areas will also be included.

Students will gain 5 key development attributes by:

(1) Forming a basic understanding of the challenges in meeting the demands of the modern metropolis. This will be achieved through examination of how cities consume power, resources, and meet the high-living-standard demands of today’s urban population;

(2) Achieving a level of critical analysis of contemporary environmental issues in an urban context;
(3) Experiencing first-hand the challenges of the metropolis through undertaking: fieldtrips and internships to augment academic work. This would include the areas of power generation, waste management, and government policy making and implementation

(4) Engaging in teamwork and leadership through group work and presentations

(5) Learning better professional skills through the understanding of the balance between theory and practice.

For the purposes of this course formal lectures, group seminars, and group presentations have been organised. Students will produce a fieldtrip report and a substantive research paper on an aspect of Urban Sustainability. The material covered in the course includes scientific and societal behavioural issues that impact upon sustainability, as well a wide range of educational resources, including material from the web. Students will also be involved in seminar presentations.

Sydney provides an excellent model to study in that its demands are large scale, and the sustainable policies and practices can be accessed so students can gain first hand understanding of the issues involved.

The course will cover:

- The core idea of sustainability through finite resources and man’s impact on these limited resources
- Our use of Power/Energy
- Feeding and housing a growing urban population
- Resource consumption
- Pathways for the future – coverage of the range of actions proposed

**Attendance at all classes and field trips is mandatory.**

Any absence for medical or other reasons must be supported by documentation. Strict penalties apply, on a pro rata basis, for any unapproved absence.

**Format**

The course will be organized in lectures, seminars, and fieldtrips. Student questions will be encouraged. Set readings will be prescribed and students will be expected to participate in all classes.
Sessions

The course will have two teaching periods each week on Tuesdays afternoon and Fridays. Some of the Friday sessions will be field trips where students will experience first-hand the variety of issues and solutions facing the city. Gordon Hinds will be the principal lecturer for these sessions. The Tuesday afternoon sessions will be more formal lectures. Dr. Delphine Rabet will be the principal lecturer for these sessions.

Assessment

Presentation Seminars (15%)

Class 1 weekly sessions (10%)
Students will be required to present group work based on their assessment of a sustainable site in Sydney as well as to submit a short written case study. Presentation topics will be discussed and distributed in the first session of the course and presentations and submissions will take place in Week 4.

Class 2 weekly sessions (5%)
Students will investigate what the components of specific electronic items are and they will have to come up with ways to re-use and recycle all or parts of these components. The objective of this activity is to understand how to limit the production of electronic waste.

Researched Essay Proposal (15%)

The essay proposal should be lodged at the end of week 3 of the course and will be the blueprint for the later essay.

The proposal should be up to 1,000 words (and not less than 750) in length. The proposal will be the basis for the research essay. It gives students a chance to outline their main ideas and arguments, and receive feedback. Students have to choose to answer one of the following essay questions and use Sydney as a case study:

1- What are the political and economic obstacles to build sustainable cities? How could they be overcome?

2- In your opinion, what is the most pressing environmental issue faced by cities? How could it be addressed?

3- Energy issues are key to understand and address the ecological crisis. What options do cities have to solve energy issues today? In future?

4- To cut carbon emissions, Australia has passed a Carbon Tax legislation. What is the difference between a Carbon Tax and a Carbon Trading scheme? In your opinion, which solution is the most efficient?
5- Why is Sydney a particularly good choice to try to create a sustainable city?

6- Can we build sustainable cities and at the same time continue to rely on consumerism and growth to manage our economic activities? What is the contradiction in such a model for development?

Students are encouraged to choose their own course-related topic but must seek approval by the coordinator by week 2, prior to beginning this assignment.

Standard academic conventions must be used with all references cited whenever they are used in the text. A bibliography should be included. Style guidelines are available (see the handbook) if required but the utility and consistent application of the method employed is the main concern.

Research Essay (Final) (30%)

This research essay of 2000 words should demonstrate the student’s ability to critically analyze an issue central to urban sustainability and to provide evidence of wide research pertaining to this issue. Every student must consider the evidence and reach a conclusion based on their research. Feedback received from the research proposal should also inform this final version.

Field Trip Report (15%)

The report should be between 500 and 750 words and should reflect the student’s critical assessment of their first-hand experience and how it relates to the issue of urban sustainability.

Class Participation (5%)

All students are expected to participate in all class discussions and be prepared each class to contribute their ideas.

Examination (20%)

A 2-hour examination will be scheduled in the formal examination period at the end of the course.

Grading

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>94-100</td>
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<tr>
<td>A-</td>
<td>90-93</td>
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<tr>
<td>B+</td>
<td>87-89</td>
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<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
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C  73-76
C-  70-72
D  60-69
F  below 60

Statement on Plagiarism

All students are responsible for having read the Boston University statement on plagiarism, which is available in the Academic Conduct Code. Students are advised that the penalty against students on a Boston University program for cheating on examinations or for plagiarism may be “… expulsion from the program or the University or such other penalty as may be recommended by the Committee on Student Academic Conduct, subject to approval by the Dean”.

Late Work.

The only extension granted for late work is where there is an extraordinary circumstance such as documented illness. In this case students must contact the Academic Director to state their case. The penalty for late work is 5% of the grade per day.

Assessment Weighting (%).

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Seminar Presentations (2)</td>
<td>15</td>
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<tr>
<td>Research Paper Proposal</td>
<td>15</td>
</tr>
<tr>
<td>Research Paper (final)</td>
<td>30</td>
</tr>
<tr>
<td>Participation</td>
<td>5</td>
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<tr>
<td>Field Study</td>
<td>15</td>
</tr>
<tr>
<td>Examination</td>
<td>20</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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Readings.

In general there will be one or more set readings on the Blackboard for the whole class for each lecture. From time to time additional readings will be posted in the week preceding the relevant class. Every attempt is made to provide a balanced treatment of the subject matter through the provision of readings that approach each issue or topic from particular methodological and disciplinary perspectives. Check below for the relevant readings for each class.
Weekly topics and activities

WEEK 1

Session 1
“Introduction: From Nature to Urban Sustainability”
- Structure and objectives of the course
- A brief genealogy of nature and sustainability
- The process of urbanisation
- Environmental issues facing cities

Session 2
"We are running out of Stuff"
- Introduction and discussion of field trips
- building/designing sustainable cities
- Guest Lecturer - Professor Michael Neuman UNSW
- Guest Lecturer - Chris Howe

Site Tour - Michael Mobbs House

WEEK 2

Session 1
“Population, housing and energy”
- The population dilemma in Sydney
- What does sustainable housing look like?
- The impact of mining on cities

Session 2
"Powering a city"
- Introduction of Guest lecturers- powering a city
- Power generation lecture
- Ted Talk - Bill Gates - zero power emissions
- Lecturer-Tom Belsham - City of Sydney – Trigeneration
- Lecturer - Simone Orme - Saperio Consultants – Regulation and smart grids
- Skype - David Sadoway MIT (large scale battery technology)
- Lecture - Summary and prep for Hunter Valley Trip (3rd +4th)
FIELD TRIP
Week2/3 (overnight)
Hunter Valley Region

Day One
BU leave - 8am
Newcastle Smart City Display 11am
Lunch Newcastle 12noon
Tamburlaine Winery 2pm
Hunter Valley Gardens 4pm
BBQ 6pm

Day Two
Bayswater Power station 10am
Wollumbi Lunch Stop 1pm
BU - 4pm

WEEK 3

Session 1
“Moving and disposing in sustainable ways in Sydney”
- Sustainable transport
- Waste management
- E-waste

Session 2
“Waste not want not”
- Recycling project
- Guest lecturer - Miles Mason, Business Development Manager, New Energy Corporation
- How much waste a city produces, recycling and where waste goes.
- Guest lecturer - Visy Recycling (TBC)
- Lecture - Social Contract breakdown

WEEK 4

Session 1
“Food security and urban farming”
- Food production and consumption
- Urban farming
- Case study and Group presentation

Session 2
5AM Start - back at BU 12noon
"Feeding a city"
- Site tour - Flemington Markets
- Breakfast
- Woolworths Distribution Centre

**WEEK 5**

"Role of Technology"
- Site Visit- IBM - Smart Cities Unit
- Skype presentation - Alan Dormer – CSIRO
- Lecture - Gordon Hinds - Summary

**WEEK 6**

“Private and public initiatives to achieve sustainable development”
- Carbon tax and Carbon Trading Scheme
- Guest lecture: Dr. Donnie MacLurean
- Role Play: Debate on urban sustainability at the Sydney City Council

2-hour Examination (time TBA)
ESSENTIAL READINGS

WEEK 1: Introduction


WEEK 2: Population, housing and energy


Cooper, Rachel, Evans, Graeme and Boyko, Christopher (Eds) (2009), Designing sustainable cities, Chapter 7: Housing in the twentieth-century city, Oxford: Wiley-Blackwell.

WEEK 3: Moving and disposing in sustainable ways in Sydney


WEEK 4: Food security and urban farming


WEEK 5: Role of technology


WEEK 6: Private and public initiatives to achieve sustainable development


ADDITIONAL READINGS


Giradet Herbert (1999), Creating Sustainable Cities, Green Books, Dartington England

Grant, Jill (2009), Theory and practice in planning the suburbs: Challenges to implementing new urbanism, smart growth and sustainability principles. Planning Theory and Practice 10(1): 11-33


McManus Phil (2005), Vortex cities to sustainable cities: Australia's urban challenge University of New South Wales Press, Sydney


Rosenzweig, Cynthia (2011), All climate is local, Scientific American (September): 70-73

**Useful Journals/online resources**

Environment and Planning A: urban and regional research
Environment & Urbanization
Environment and Organization
European Environment (Online)
Cities (Online)
Habitat International (Online)
International Journal of Urban & Regional Research (Online)
Journal of Environmental Policy & Planning (Online)
Urban Studies (Online)
Sustainable Development (Online)
Global Environmental Change (Online)
Climate Spectator (online)
Gizmag (online)