Course Information

<table>
<thead>
<tr>
<th>Course Code</th>
<th>ECON 3034</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title</td>
<td>Environmental Economics</td>
</tr>
<tr>
<td>Course Discipline</td>
<td>Economics</td>
</tr>
<tr>
<td>Units of Credit</td>
<td>Three (3)</td>
</tr>
<tr>
<td>Pre-requisites</td>
<td>ECON 2000 AND ECON 2002</td>
</tr>
<tr>
<td>Semester of Offering</td>
<td>Semester I, 2015/16</td>
</tr>
<tr>
<td>Lecturers</td>
<td>Mrs. Malini Maharaj (<a href="mailto:malini.maharaj@sta.uwi.edu">malini.maharaj@sta.uwi.edu</a>)</td>
</tr>
<tr>
<td>Teaching Assistant</td>
<td>Mr. Gopiechand Boodhan (<a href="mailto:gboodhan@gmail.com">gboodhan@gmail.com</a>)</td>
</tr>
</tbody>
</table>

Course Description

This course equips students with an understanding of the key economic principles and policies for managing natural resources; environmental valuation techniques; policy instruments for achieving environmental objectives and also economic interventions to address both climate change and natural disasters. The course exposes students to the environmental perspective of Sustainable Development and relates this perspective to Economic and Social objectives, describing the relationship between the economy and the environment. The course is also founded on the rationale that SIDS such as the Caribbean are highly dependent on their environments for their economic survival but traditionally this reality has been under-recognized in economic research and teaching in the region.

The course is organized under four main sections which firstly outline the relationship between the economy and the environment, and then further dissect the relationship according to the source, sink and threat functions of the environment. Each section details the relevant literature and further discusses case studies that elaborate on how the literature has been or can be applied. The course is therefore a combination of theoretical principles and practical application underlying environmental economics.

Lecture sessions and tutorial sessions are intended to deliver the course material but also aim to facilitate discussion of key issues that are relevant to the course. Students are expected to be prepared with readings so as to provide feedback and highlight these issues for further discussion.
Purpose of the Course

Students will be exposed to the role of the environment as a source of useful economic resources alongside its simultaneous role as a sink for the outcomes of consumption and production and also in terms of the economic threat it sometimes poses. This course will therefore allow students to be able to understand and describe the dynamics of the economy-environment interface while identifying appropriate mechanisms for incorporating the environment into economic decision making. This course is mandatory for students pursuing the Minor in Environmental Economics.

Instructor information

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer</td>
<td>Mrs. Malini Maharaj</td>
<td><a href="mailto:malini.maharaj@sta.uwi.edu">malini.maharaj@sta.uwi.edu</a></td>
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<tr>
<td>Teaching Assistant</td>
<td>Mr. Gopiechand Boodhan</td>
<td><a href="mailto:g.boodhan@gmail.com">g.boodhan@gmail.com</a></td>
</tr>
</tbody>
</table>

Letter to the Student

Dear Students,

Welcome to Environmental Economics. We on the teaching team are eager about the opportunity to interact with you and share our knowledge and experiences over this semester.

We hope that the learning experience is a pleasant one, which will not only contribute to your overall academic endeavors but also your personal pursuits and professional careers.

If you have any questions or concerns please feel free to email any member of the teaching team or schedule an appointment during office hours.

We hope that you have a productive semester.

Best of Luck!
Sincerely,
The ECON 3034 Teaching Team.
Content

1. Introduction: The Triple Interface between the Economy and Socio-Economy
   (A) The Environment as the Source of Economic Well-Being;
   (B) The Environment as the Sink for Socio-Economic Waste;
   (C) The Environment as Menace (or the Threat Function): particularly in small and island developing states (SIDS).
   (D) The Environmental Kuznets Curve
   (E) Sustainable Development
   (F) Environmental Cost Benefit Analysis

2. The Economics of the Source Function of the Environment
   (A) The Economics of Non-Renewable Resources:
      i. Inter-generational Equity and optimal depletion;
      ii. Green Accounting/National Income Accounting;
      iii. Capture and Utilisation of Natural Resource Rents.
   (B) The Economics of Renewable Resources
      i. An Introduction to Fisheries Economics and Tourism
      ii. The Economics of Biodiversity and Ecosystem Services

3. The Economics of the Sink Function of the Environment
   (A) Pollution, externalities and the micro (welfare) economics of pollution
   (B) Steps in, and Tools for the Internalisation of Externalities
      i. Measurement of Impacts;
      ii. Valuation of Environmental impacts;
      iii. Policy Instruments to Internalize Externalities;
      iv. The Special Role of Environmental Cost Benefit Analysis;
      v. The Ecological Footprint

4: The Economics of The Threat Function
   Vulnerability and the challenge of Climate Change in the Caribbean:
   (A) Mitigation and Abatement;
   (B) Vulnerability, Adaptation and Resilience Building.
   (C) Mainstreaming Disaster Risk Management into Economic and Financial Planning for Sustainable Development.
Goals

The aim of this course is to develop an understanding of the importance of the environment to the economy with the goal to develop this awareness within students such that they become cognizant of how economic decision making impacts and is impacted by the environment, and further how then should the environment be efficiently managed to sustain the economy.

General Objective

The Objective of this course it to deliver the course material and execute tutorial sessions over the (13) thirteen week teaching period to allow students to understand and apply the literature adequately enough to meet the learning outcomes as indicated.

Learning Outcomes

1. To critically review the economic literature on the interface between the economy, society and the natural environment;
2. To critically apply the literature reviewed in (1) above, to the case of Small & Island Developing States (SIDS), particularly in the Caribbean.

Assessment

This course is assessed though an Online Multiple Choice Quiz (10%) a Group Project and Presentation (20%) and an End of Semester Examination (70 %);

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Weighting</th>
<th>Opening date of assignment</th>
<th>Closing date for Assignment</th>
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<tbody>
<tr>
<td>Online Assignment I (Quiz)*</td>
<td>10%</td>
<td>October 8th 2015</td>
<td>October 9th 2015</td>
</tr>
<tr>
<td>Group Project</td>
<td>20%</td>
<td>October 16th 2015</td>
<td>November 16th 2014</td>
</tr>
<tr>
<td>Group Presentation</td>
<td></td>
<td></td>
<td>November 17th 2014</td>
</tr>
<tr>
<td>Final Exam</td>
<td>70%</td>
<td>To be announced</td>
<td></td>
</tr>
</tbody>
</table>
Coursework Group Project Assignment: Students will be divided into groups and assigned a particular group project.

The group project will be made available by the 16th October 2015 and is due for submission on the 16th November 2015. All projects are to be submitted to Turnitin on the ECON 3034 myelearning course site no later than 11:55 PM on November 16th 2015; AND hardcopy to the Department of Economics no later than 4:00 PM on November 16th, 2015.

All students are required to complete and submit peer evaluation forms, and plagiarism declaration forms along with the submission of the project to the Department of Economics.

Penalties will be applied for late submissions.

Teaching Strategy

One 2-hour weekly lecture (Tuesdays 10am -12 noon, FSS 103) supported by a one-hour weekly tutorial. Students are reminded of the application of the Examination Regulation 19 concerning tutorial attendance,

Recommended Texts


Reading List

1. Introduction: The Triple Inter-Face between the Environment and the Socio-Economy: Source, Sink and Menace

Class Note:

Perman, R., Ma, Y., McGilvray J., and M Common (2003), Natural Resource and Environmental Economics, Pearson. Chapter 15

2. The Economics of the Source Function of the Environment

   (A) The Economics of Non-renewable Resources

      i. Inter-generational Equity and optimal depletion;

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1 There are a number of other references available in the UWI library and these can also be consulted. ECON 3034 Semester I, 2015/2016
**Turner, Pearce and Bateman (1994), Ch. 16**

ii. National Income Accounting and Genuine Savings;

iii. Control and Utilisation of Natural Resource Rents
*Pantin, D.A. Governance in Natural Resource based Rentier economies in the Caribbean, in Dennis Pantin(ed.). Reader in Caribbean Economy. 2005

(B) The Economics of Renewable Resources
i. An Introduction to Fisheries Economics and Tourism
   • The Economics of Fishing and Fisheries Economics.

ii. The Economics of Biodiversity of Ecosystem Services

3. The Economics of the Sink Function of the Environment

(A) Pollution (definition, types); externalities and the micro (welfare) economics of pollution;

**Pearce, David and Edward B. Barbier (2000): Blueprint for a Sustainable Economy. Earthscan. Chapter 6,9
**Turner, Pearce and Bateman (1994), Chapters 5-6

(B) Steps in, and Tools for, Internalisation of Externalities

i. Measurement of Impacts
Noise pollution, Solid Waste

Class Note

ii. Valuation of Environmental impacts

ECON 3034 Semester I, 2015/2016


iii. **Policy Instruments (P.I.) to Internalize Externalities**

**Survey and Assessment of Environmental Taxes in the Caribbean**

**Pantin, et al. (2008) Chapter 3-8**


**Pearce, David and Edward B. Barbier (2000).ibid. Chapters 8, pp. 196-209**


iv. **The Special Role of Environmental Cost Benefit Analysis**


ECON 3034 Semester I, 2015/2016
v. Ecological Footprints


4. The Economics of The Threat Function²

- ECLAC 2010. The Impact of Climate Change on the Macroeconomy in the Caribbean
- ………..(2009) Climate Change and Sustainable Tourism in Caribbean Small Island Developing States. In Clayton and Hayle (eds) *Climate change and Tourism in the Caribbean*.
- Mainstreaming Disaster Risk Management into Economic and Financial Planning for Sustainable Development.

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²Additional readings to be provided.
ECON 3034 Semester I, 2015/2016
<table>
<thead>
<tr>
<th>Teaching Week (beginning September 1st 2015)</th>
<th>Unit Number /Title</th>
<th>Unit Description</th>
<th>Unit Content</th>
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<tbody>
<tr>
<td>1s September</td>
<td>1. Introduction: The Triple Inter-Face between the Environment and the Socio-Economy: Source, Sink and Menace</td>
<td>(A) The Economics of Non-renewable Resources</td>
<td>i. Inter-generational Equity and optimal depletion;</td>
</tr>
<tr>
<td>8th September</td>
<td>2. The Economics of the Source Function of the Environment</td>
<td>(B) The Economics of Renewable Resources</td>
<td>ii. National Income Accounting and Genuine Savings;</td>
</tr>
<tr>
<td>8th September</td>
<td>3. The Economics of the Sink Function of the Environment</td>
<td>(A) Pollution (definition, types); externalities and the micro (welfare) economics of pollution</td>
<td>iii. Control and Utilisation of Natural Resource Rents</td>
</tr>
<tr>
<td>22nd September</td>
<td>3. The Economics of the Sink Function of the Environment</td>
<td>(B) Steps in, and Tools for, Internalisation of Externalities</td>
<td>iv. An Introduction to Fisheries Economics and Tourism</td>
</tr>
<tr>
<td>29th September</td>
<td>4. The Economics of The Threat Function</td>
<td>(A)</td>
<td>v. The Economics of Biodiversity of Ecosystem Services</td>
</tr>
<tr>
<td>8th October</td>
<td>4. The Economics of The Threat Function</td>
<td>(B)</td>
<td>i. Measurement of Impacts</td>
</tr>
<tr>
<td>13th October</td>
<td>4. The Economics of The Threat Function</td>
<td>(C)</td>
<td>ii. Valuation of Environmental impacts</td>
</tr>
<tr>
<td>20th October</td>
<td>4. The Economics of The Threat Function</td>
<td>(D)</td>
<td>iii. Policy Instruments (P.I.) to Internalize Externalities</td>
</tr>
<tr>
<td>27th October</td>
<td>4. The Economics of The Threat Function</td>
<td>(E)</td>
<td>iv. The Special Role of Environmental Cost Benefit Analysis</td>
</tr>
<tr>
<td>3rd November</td>
<td>4. The Economics of The Threat Function</td>
<td>(F)</td>
<td>v. Ecological Footprints</td>
</tr>
<tr>
<td>10th November</td>
<td>4. The Economics of The Threat Function</td>
<td>(G)</td>
<td></td>
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<tr>
<td>17th November</td>
<td>Group Presentations</td>
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<tr>
<td>24th November</td>
<td>Review Session</td>
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ECON 3034 Semester I, 2015/2016
Department of Economics Activities

Students are encouraged to participation in the following planned Departmental activities for 2015/16:

- Attendance at the Post National Budget Forum 2016. Please contact the Department of Economics for the venue and time of this event.

Policies to Note:

Regulation 11 on Coursework:

b. Only a coursework mark of 40% will be transferred within the period outlined i.e. one (1) year limit. A student who meets this requirement must not attempt coursework for the said period, as this approval will become null and void.

UWI Examination regulation no. 78 which states, inter alia,

- 78. (i) Cheating shall constitute a major offence under these regulations.
- (ii) Cheating is any attempt to benefit one’s self or another by deceit or fraud.
- (iii) Plagiarism is a form of cheating.
- (iv) Plagiarism is the unauthorised and/or unacknowledged use of another person’s intellectual efforts and creations howsoever recorded, including whether formally published or in manuscript or in typescript or other printed or electronically presented form and includes taking passages, ideas or structures from another work or author without proper and unequivocal attribution of such source(s), using the conventions for attributions or citing used in this University.

UWI Examination Regulation No. 19 “Any candidate who has been absent from the University for a prolonged period during the teaching of a particular course for any reason other than illness or whose attendance at prescribed lectures, classes, ... tutorials, ... has been unsatisfactory or who has failed to submit essays or other exercises set by his/her teachers, may be debarred by the relevant Academic Board, on the recommendation of the relevant Faculty Board, from taking any University examinations. The procedures to be used shall be prescribed in Faculty Regulations.”

In this connection, the Faculty of Social Sciences requires students to attend and participate in at least 75% of tutorials.
Marking Scheme for Examinations in the Faculty of Social Sciences

21. (i) In the determination of GPA, the grades with corresponding quality points shall be as defined in the University Regulations governing the GPA.

The authorized marking scheme as of Academic Year 2014/2015 is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>% Range</th>
<th>Grade Point</th>
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<tbody>
<tr>
<td>A+</td>
<td>90-100</td>
<td>4.3</td>
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<tr>
<td>A</td>
<td>80-89</td>
<td>4</td>
</tr>
<tr>
<td>A-</td>
<td>75-79</td>
<td>3.7</td>
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<tr>
<td>B+</td>
<td>70-74</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>65-69</td>
<td>3.0</td>
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<tr>
<td>B-</td>
<td>60-64</td>
<td>2.7</td>
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<tr>
<td>C+</td>
<td>55-59</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>50-54</td>
<td>2.0</td>
</tr>
<tr>
<td>FB</td>
<td>35-49</td>
<td>1.3</td>
</tr>
<tr>
<td>F</td>
<td>0-34</td>
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Department of Economics
UWI St. Augustine
September 2015