To be appended to Program Change Proposals for:

**BSc; Environment; Biodiversity and Conservation**
(bsc_environment_biodiversity_revision_2008.doc)

**BSc (AgEnvSc); Environment; Biodiversity and Conservation**
(bsc_agenvsc_environment_biodiversity_revision_2008.doc)

### Course list

Deleted courses shown as **strikeout**, added courses shown as **underlined italics**. Courses at Macdonald Campus are shown with (M). Numbers in *superscript* refer to comments in the rationale.

<table>
<thead>
<tr>
<th>Current Program (63 credits)</th>
<th>Proposed Program (63 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core: Required Courses</strong> (18 credits)</td>
<td><strong>Core: Required Courses</strong> (18 credits)</td>
</tr>
<tr>
<td>ENVR 200 (3) The Global Environment</td>
<td>ENVR 200 (3) The Global Environment</td>
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<tr>
<td>ENVR 201 (3) Society and Environment</td>
<td>ENVR 201 (3) Society and Environment</td>
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<tr>
<td>ENVR 202 (3) The Evolving Earth</td>
<td>ENVR 202 (3) The Evolving Earth</td>
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<tr>
<td>ENVR 203 (3) Knowledge, Ethics and Environment</td>
<td>ENVR 203 (3) Knowledge, Ethics and Environment</td>
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<tr>
<td>ENVR 301 (3) Environmental Research Design</td>
<td>ENVR 301 (3) Environmental Research Design</td>
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<tr>
<td>ENVR 400 (3) Environmental Thought</td>
<td>ENVR 400 (3) Environmental Thought</td>
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<tr>
<td><strong>Core: Complementary Course – Senior Research Project</strong> (3 credits*)</td>
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<tr>
<td>AGRI 519 (6) Sustainable Development Plans (in Barbados)</td>
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<td>ENVR 401 (3) Environmental Research</td>
<td>ENVR 401 (3) Environmental Research</td>
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<tr>
<td>ENVR 451 (6) Research in Panama (in Panama)</td>
<td>ENVR 451 (6) Research in Panama (in Panama)</td>
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<tr>
<td>* Only 3 credits will be applied to the program; extra credits will count as electives.</td>
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<tr>
<td><strong>Domain: Required Courses</strong> (9 credits)</td>
<td><strong>Domain: Required Courses</strong> (9 credits)</td>
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<tr>
<td>9 credits, basic courses in the biological principles of diversity, systematics and conservation:</td>
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<tr>
<td>BIOL 304 (3) Evolution</td>
<td>BIOL 304 (3) Evolution</td>
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<tr>
<td>BIOL 305 (3) Animal Diversity</td>
<td>BIOL 305 (3) Animal Diversity</td>
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<tr>
<td>BIOL 465 (3) Conservation Biology</td>
<td>BIOL 465 (3) Conservation Biology</td>
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<tr>
<td><strong>Domain: Complementary Courses</strong> (33 credits)</td>
<td><strong>Domain: Complementary Courses</strong> (42 credits)</td>
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<tr>
<td>3 credits of ecology:</td>
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<tr>
<td>BIOL 308 (3) Ecological Dynamics</td>
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<tr>
<td>or WILD 205 (3) Principles of Ecology (M)</td>
<td>or WILD 421 (3) Wildlife Conservation (M)</td>
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<tr>
<td>3 credits of statistics:</td>
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<tr>
<td>BIOL 373 (3) Biometry</td>
<td>BIOL 373 (3) Biometry</td>
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<tr>
<td>or AEMA 310 (3) Statistical Methods 1 (M)</td>
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<tr>
<td>9 credits, interface between science, policy and management:</td>
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<tr>
<td>ANTH 418 (3) Environment and Development</td>
<td>AGRI 550 (3) Sustained Tropical Agriculture (in Panama)</td>
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<tr>
<td>ECON 208 (3) Microeconomic Analysis and Applications</td>
<td>ANTH 418 (3) Environment and Development</td>
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<tr>
<td>or AGEC 200 (3) Principles of Microeconomics (M)</td>
<td>ECON 208 (3) Microeconomic Analysis and Applications</td>
</tr>
<tr>
<td>ECON 225 (3) Economics of the Environment</td>
<td>or AGEC 200 (3) Principles of Microeconomics (M)</td>
</tr>
<tr>
<td>GEOG 302 (3) Environmental Management 1</td>
<td>ECON 225 (3) Economics of the Environment</td>
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<tr>
<td>or GEOG 380 (3) Adaptive Environmental Management</td>
<td>or AGEC 200 (3) Principles of Microeconomics (M)</td>
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<tr>
<td>GEOG 408 (3) Geography of Development</td>
<td>ECON 302 (3) Economics of the Environment</td>
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<td>GEOG 302 (3) Environmental Management 1</td>
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<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>GEOG 410</td>
<td>Geography of Underdevelopment: Current Problems</td>
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</tbody>
</table>

3 credits of field courses:
- BIOL 331 (3) Ecology/Behaviour Field Course (at Mont St. Hilaire)
- BIOL 334 (3) Applied Tropical Ecology (in Barbados)
- BIOL 553 (3) Neotropical Environments (in Panama)
- GEOG 495 (3) Field Studies - Physical Geography (at Mont St. Hilaire)
- GEOG 497 (3) Ecology of Coastal Waters (at Bay of Fundy)
- GEOG 499 (3) Subarctic Field Studies (in Schefferville)
- WILD 475 (3) Desert Ecology (in Arizona)

6 credits of general scientific principles:
- BREE 430 (3) GIS for Bioresource Management (M)
- or GEOG 306 (3) Raster Geo-Information Science
- BIOL 324 (3) Ecological Genetics
- BIOL 341 (3) History of Life
- BIOL 432 (3) Limnology
- BIOL 441 (3) Biological Oceanography
- BIOL 442 (3) Marine Biology
- BIOL 505 (3) Diversity and Systematics Seminar
- GEOG 272 (3) Earth's Changing Surface
- GEOG 321 (3) Climatic Environments
- GEOG 350 (3) Ecological Biogeography
- MICR 331 (3) Microbial Ecology (M)
- NRSC 437 (3) Assessing Environmental Impact (M)
- PLNT 460 (3) Plant Ecology (M)
- WILD 313 (3) Phylogeny and Zoogeography (M)
- WILD 375 (3) Issues: Environmental Sciences (M)
- WILD 410 (3) Wildlife Ecology (M)
- WOOD 410 (3) The Forest Ecosystem (M)
- WOOD 420 (3) Environmental Issues: Forestry (M)
  (A second field course from the Domain curriculum may also be taken)

3 credits of social science:
- AGEC 333 (3) Resource Economics (M)
- AGRI 413 (3) Globalization: Issues of Change (in Barbados)
- ANTH 339 (3) Ecological Anthropology
- ANTH 416 (3) Environment/Development: Africa (in Africa)
- ECON 326 (3) Ecological Economics
- ENVB 465 (3) Environment and Social Change (at Bay of Fundy)
- GEOG 404 (3) Environmental Management 2 (in Panama)
- GEOG 498 (3) Humans in Tropical Environments (in Panama)

3 credits of field courses:
- *AGRI 452 (3) Water Resources in Barbados (in Barbados)*
  (A second field course from the Domain curriculum may also be taken)
  
- GEOG 370 (3) Protected Areas
- or GEOG 380 (3) Adaptive Environmental Management
- GEOG 408 (3) Geography of Development
- GEOG 410 (3) Geography of Underdevelopment: Current Problems

3 credits of field courses:
- BIOL 331 (3) Ecology/Behaviour Field Course (at Mont St. Hilaire)
- BIOL 334 (3) Applied Tropical Ecology (in Barbados)
- BIOL 553 (3) Neotropical Environments (in Panama)
- GEOG 495 (3) Field Studies - Physical Geography (at Mont St. Hilaire)
- GEOG 497 (3) Ecology of Coastal Waters (at Bay of Fundy)
- GEOG 499 (3) Subarctic Field Studies (in Schefferville)
- WILD 475 (3) Desert Ecology (in Arizona)

6 credits of general scientific principles:
- NRSC 430 (3) GIS for Natural Resource Management (M)
  (A second field course from the Domain curriculum may also be taken)

3 credits of social science:
- AGEC 333 (3) Resource Economics (M)
- AGRI 413 (3) Globalization: Issues of Change (in Barbados)
- ANTH 339 (3) Ecological Anthropology
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Rationale:
1. The three required courses in Biology are similar to these three WILD courses, and their inclusion will greatly simplify the program for Macdonald Campus students. Note that this program is offered in the B.Sc. as well as the B.Sc.(Ag.Env.Sc.) degrees. WILD 212 and WILD 421 are removed from the complementary lists “Organisms and Diversity” and “Social Science” to avoid listing them twice. Overall credit count remains the same, with 9 credits of required courses becoming 9 complementary credits.

2. AGRI 550, AGRI 452, and URBP 520 are all part of the Barbados Field Semester, and are relevant to these sections.

3. GEOG 370, GEOG 322, NRSC 315 and WILD 311 are relevant to this domain, and are in demand by our students.

4. GEOG 302 and GEOG 380 are mutually exclusive, as their content does not overlap extensively. Students can take both if they like.

5. BREE 430 became NRSC 430 last year. The course is the same, just the code and title changed.
6. WILD 375 overlaps in part with our ENVR core courses.

7. AGRI 413 and ENVR 465 were retired last year.

8. BIOL 327 changed to BIOL 427.

9. BIOL 350 is cross-listed with ENTO 350, so we will include both.

10. PLNT 358 was not in the correct order in this list. This is not a program change.

11. Course names and numbers changed associated with Faculty of Agricultural and Environmental Sciences program changes:
   - WILD 212 (3) Evolution and Systematics – now: AEBI 212 (3) Evolution and Phylogeny
   - WILD 200 (3) Comparative Zoology – now: AEBI 211 (3) Organisms 2
   - NRSC 315 (3) Science of Inland Waters – now: ENVB 315 (3) Science of Inland Waters
   - WILD 313 (3) Phylogeny and Zoogeography – now: ENVB 313 (3) Phylogeny and Zoogeography
   - ENTO 440 (3) Systematic Entomology – now: ENTO 440 (3) Insect Diversity

Consultations with instructors

Dear Pete,

OK, so long as they have to take three of the six.

Best regards,
Graham

-----Original Message-----
From: Peter Barry, Mr.
Sent: Wednesday, January 23, 2008 1:40 PM
To: Graham Bell, Prof.
Subject: RE: changes to Biodiversity domain

Hi Graham

To add the Mac equivalents, I have to make the required courses complementary. Once you provide a choice, the course is considered complementary by definition. However, students still have to take three of those courses.

If they want to be downtown, they will have to take BIOL 304, 305, and 465. If they want to be at Mac, they have to take WILD 212, 200, and
421. Even if they work both campuses, there is no way to satisfy this section's 9 credits without hitting all three areas.

So the "requirement" is the same, but there are now choices as to the courses involved.

Do you agree with the changes?

Pete

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