## New Course Proposal Form

### 1. Will this new course affect a current program?  
If "yes", has a Program Revision Form been submitted concurrently?  
<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

### 2. Teaching Department:  
| Biology |

### 3. Administering Faculty/Unit:  
| Science |

### 4. Campus  
(Downtown, Macdonald, Off Campus, Distance Ed, Other – specify)  
| Downtown |

### 5. Effective Term of Implementation  
(Ex. Sept. 2004 = 200409)  
| Term: 200701 |

### 6. Responsible Instructor  
| Michel Loreau |

### 7. Course Title (Limit 30 Characters) - required for all courses:  
| Linking community and ecosystem ecology |

### 8. Course Number(s)  
Indicate course number & the number of terms spanned:  
(tick all that apply)  
| Subject/course number: BIOL 590  
Course(s) Span:  
| 1 term  
| 2 consecutive terms (D1, D2)  
| 2 non-consecutive terms (N1, N2)  
| 3 consecutive terms (J1, J2, J3) |

### 9. Course Title to Appear in the Calendar (optional)  
(Limit 59 characters):  
| Note: This can ONLY be an expansion of word(s) abbreviated in the 30 character course title above.  
Linking community and ecosystem ecology |

### 10. Credit Weight  
(or CEU's for non-credit CE courses):  
| 3 |

### 11. Rationale for new course  
This new course is intended for advanced undergraduate and graduate students. It aims to provide theoretical foundations for a new ecological synthesis that merges the perspectives of population, community, evolutionary and ecosystem ecology. Its focus will be neither on pure community ecology nor on pure ecosystem ecology, but instead on how to link the two ecological subdisciplines to develop a new understanding of complex ecological systems. Its focus will be on theory in interaction with experimental and empirical work. It will be based on lectures and discussions covering current topics at the interface between community and ecosystem ecology. The course extends the current curriculum in ecology by complementing existing courses at the 300, 400 and 500 levels with a more integrative approach to ecological systems.

### 12. Course Description  
(as it will appear in the Calendar [maximum 50 words]):  
(N.B. Faculty of Medicine must append complete course outline)  
Theoretical foundations for a new ecological synthesis that merges the perspectives of population, community, evolutionary and ecosystem ecology. Focus on theory in interaction with experimental and empirical work, and covers current topics at the interface between community and ecosystem ecology..

### 13. Supplementary information to appear in the Calendar in addition to the course description.  
Such as: equivalent course(s), contact hours, enrolment limitations, language of instruction etc.  
Please enter the information as it should appear in the calendar notes.  
| BIOL 590 Linking Community and Ecosystem Ecology. (3) (Winter) (1.5 hrs lecture, 1.5 hrs seminar) (Prerequisites: BIOL 434 or permission of instructor) |
14. Schedule Types(s):
(Enter all that apply – see course guidelines for a complete list.)
(i.e. Lecture, Labs, Tutorial)

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours per Week</th>
<th>Type</th>
<th>Hours per Week</th>
<th>Type</th>
<th>Hours per Week</th>
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</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>1.5</td>
<td>Seminar</td>
<td>1.5</td>
<td>Total Hours per Week</td>
<td>3</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Number of Weeks</td>
<td>13</td>
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15. Projected Enrolment: 20 students

16. Required text and/or preliminary reading list sent to library?
- Yes
- No

17. Prerequisite(s) (Courses or Tests)
Specify course number(s) or name(s) of test(s):
- BIOL 434 or permission of instructor

If the student does not have a prerequisite should web registration be blocked?
- Yes
- No

If “Yes” complete A and B:

A. Indicate minimum grade or test score(s) the student must attain in prerequisite course(s) or test(s):

B. Can the prerequisite course(s) or test(s) be taken in the same term as this course?
- Yes
- No

18. Corequisite(s) Course Number(s):
Specify course number(s) and title(s):

If the student does not register for the corequisite in the same term should web registration be blocked?
- Yes
- No

19. Restriction(s):

20. Consultation Reports Attached
- Yes
- N/A

21. Additional Course Charges (must be approved by the Fee Policy Committee)
Description of Fee (e.g. screening fee)  | Amount

22. Requires Teaching, Physical, or Financial Resources
Not Currently Available (attach explanation)
- Yes
- No
## 23. Approvals:

<table>
<thead>
<tr>
<th>Routing Sequence</th>
<th>Departmental Meeting</th>
<th>Departmental Chair</th>
<th>Other Faculty</th>
<th>Curric/Academic Committee</th>
<th>Faculty</th>
<th>SCTP</th>
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<tbody>
<tr>
<td>Name</td>
<td>P. Lasko</td>
<td>P. Lasko</td>
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<td>Signature</td>
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<tr>
<td>Departmental Contact Person (name/phone/email)</td>
<td>Susan Gabe/7045/ <a href="mailto:susan.gabe@mcgill.ca">susan.gabe@mcgill.ca</a></td>
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BIOL 590
Linking Community and Ecosystem Ecology

Instructor
Michel Loreau

Workload
3 credits
Lecture = 1.5 per week
Seminar = 1.5 per week

Prerequisites
BIOL 434 or permission of instructor.

Content
This course is intended for advanced undergraduate and graduate students. It aims to provide theoretical foundations for a new ecological synthesis that merges the perspectives of population, community, evolutionary and ecosystem ecology. Its focus will be neither on pure community ecology nor on pure ecosystem ecology, but instead on how to link the two ecological subdisciplines to develop a new understanding of complex ecological systems. Its focus will be on theory in interaction with experimental and empirical work. It will be based on lectures and discussions covering current topics at the interface between community and ecosystem ecology. These topics include:

- Principles of population and ecosystem approaches in ecology. How to build models that integrate the two perspectives.
- The maintenance and functional consequences of species diversity in competitive communities.
- Effects of biodiversity on ecosystem functioning.
- Biodiversity and ecosystem stability: revisiting the old stability–complexity debate.
- Merging food webs, interaction networks, biodiversity and ecosystem functioning.
- Spatial processes across systems, and the joint dynamics of biodiversity and ecosystem processes at landscape to regional scales.
- Indirect interactions and the evolution of ecosystems and ecosystem properties. Is the ecosystem a level of selection?

Readings
Optional textbooks TBA and selected papers. Textbooks will be on reserve in the library.

Method
A series of 3 hours of lecture + discussion or 3 hours of discussion on selected papers.

Evaluation
Participation during class discussions (20%); oral report [2 group oral presentations] (40%); written report (40%).

Statement of Academic Integrity:
McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/integrity for more information.)