### Faculty of Science

#### BASC 396

BASC 396 is part of the Faculty of Science initiative to increase undergraduate research opportunities. This course is designed to broaden the scope of research courses, to make them available to more students, and to make the undergraduate research component more interdisciplinary. There are already 396 courses for all units in the Faculty of Science. The proposed BASC 396 course is intended for students who wish to do an interdisciplinary course involving Science, but which involves a professor or professors in the Faculty of Arts. The course would be open to students in any program offered by the Faculty of Science or Faculty of Arts, especially BA&Sc students, would be an elective course, could be taken after one term of undergraduate studies, and could be taken by students whose major is outside the offering unit. The course will contain a significant research component that requires substantial independent work by students (which the supervisor will evaluate for 50% of the course mark) and a final report worth 50% of the final grade. Students will not be permitted to take this course under the S/U option.

**12. Course Description**

*(as it will appear in the Calendar [maximum 50 words]):*

Independent research project with a final written report.

**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.

*Note that enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.*
### 14. Schedule Types(s):  
(Enter all that apply – see course guidelines for a complete list.)  
(i.e. Lecture, Labs, Tutorial)  
<table>
<thead>
<tr>
<th>Hours per Week</th>
<th>Hours per Week</th>
<th>Hours per Week</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Work</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Hours per Week: 9  
Total Number of Weeks: 13

### 15. Projected Enrolment:  
5-10

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

### 17. Prerequisite(s) (Courses or Tests)  
Specify course number(s) or name(s) of test(s):  
See p. 3  

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  
- [x] No

### 18. Corequisite(s) Course Number(s):  
Specify course number(s) and title(s):  
none

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

### 19. Restriction(s):  
- Departmental permission required. Student cannot be supervised by same instructor for two 396 Science courses. S/U option not permitted  
- Open to students in programs offered by the Faculty of Science or Faculty of Arts only.

### 20. Consultation Reports Attached  
- [ ] Yes  
- [ ] N/A

### 21. Additional Course Charges (must be approved by the Fee Policy Committee)  
Description of Fee  
Amount  

### 22. Requires Teaching, Physical, or Financial Resources  
Not Currently Available (attach explanation)  
- [ ] Yes  
- [ ] No
**Prerequisites for BASC 396:**

At least one term of undergraduate studies, and a CGPA of at least 3.0; or permission of instructor.

A project proposal form must be completed by the student and instructor and approved by the course coordinator or his/her delegate before the start of the term. Instructors will list project-specific prerequisites with the project description available through the Office for Undergraduate Research in Science (OURS) website.
‘396’ Undergraduate Research Project Proposal Form

This form was filled out online Other

by:

If "other", please specify Victor Chisholm

name and email:

INSTRUCTIONS - PROFESSORS: Fill out Sections A & B then submit this form online. (You will receive an email copy of the form. The Office for Undergraduate Research in Science will also post the project online at http://www.mcgill.ca/science/ours/396/listing/, indicating whether the project is open for students to apply or taken.)

INSTRUCTIONS - STUDENTS: You may receive this form by email, or you may download it from www.mcgill.ca/science/ours/396/listing/ after it has been posted. Either way, print this form. Complete and sign Section C on the hardcopy. Ask your supervisor to sign Section D. Take it to the department corresponding to the course number in Section A (this may or may not be your own department). Do not register for a '396' course on Minerva until you receive departmental permission.

INSTRUCTIONS - DEPARTMENTS: After the unit chair/director/designate approves (or not) this project, notify student. If approved, please give student permission to register on Minerva, and fax this form (with signatures) to the Office for Undergraduate Research in Science at 514-398-8102.

QUESTIONS OR FEEDBACK? Contact Victor Chisholm by email, or phone 514-398-5964.

SECTION A: SUPERVISOR INFORMATION

Name: Prof. Ehab Abouheif
Email: ehab.abouheif@mcgill.ca
Phone: 514-398-7190
Website: http://biology.mcgill.ca/faculty/abouheif/

Supervisor's department: Biology
Supervisor's department (if none of the above)

Course number: BIOL396 (Biology)

SECTION B: PROJECT INFORMATION

Term: Winter 2007-2008

Project start date: 2008-01-03
Project end date: 2008-05-01

Project title: Analysing 50 years of data from a long term behavioral study of slave-raiding behavior in ants

Project description: The student will be working with myself (Dr. Ehab Abouheif) and Dr. Brian McGill to search for statistical patterns in a 50 year dataset that describes the slave-raiding behavior in ants. The student will learn some cutting edge statistical techniques to be able to analyze this dataset, and will become familiar with the literature on slave-raiding behavior in ants.
Prerequisite: 1 term completed at McGill + CGPA $\geq 3.0$; or permission of instructor.

Other prerequisite, if applicable:

Grading scheme (The final report must be worth at least 50% of final grade):
Data entry 15%; Statistical analysis 30%; Cooperation and effort 5%; final report 50%

Other project information:

Project status - This project is: Taken. The professor has no more '396' projects this term.

How students can apply: N/A; this project is filled.

If other, please specify:

<table>
<thead>
<tr>
<th>Ethics, safety, and training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which of the following, if any, is involved?</td>
</tr>
<tr>
<td>Animal subjects [ ]</td>
</tr>
<tr>
<td>Human subjects [ ]</td>
</tr>
<tr>
<td>Biohazardous substances [ ]</td>
</tr>
<tr>
<td>Radioactive materials [ ]</td>
</tr>
<tr>
<td>Handling chemicals [ ]</td>
</tr>
<tr>
<td>Using lasers [ ]</td>
</tr>
</tbody>
</table>

Supervisors are responsible for the ethics and safety compliance of undergraduate students.

SECTION C: STUDENT INFORMATION

Do not complete this section unless/until the student is identified.

| Name: |
| McGill ID: |
| Email (first.last@mail.mcgill.ca): |
| Phone: |
| Program (E.g., B.Sc. Maj. Chem. Min. Biol.): |
| Level (U0 / U1 / U2 / U3): |
| Student signature - I have not applied for another '396' course in this term: |

SECTION D: APPROVALS.

Do not complete this section unless/until the student is identified.

| Supervisor: I give my permission for the student identified in section C to register for this project under my supervision. |
| Supervisor's signature: |
| Date: |
Unit chair/director/designate: I certify that this project conforms to departmental requirements for 396 courses.

Unit chair/director/designate's name:

Unit chair/director/designate's signature:

Date: