Students wishing to undertake an independent research project covering two terms may enrol in CMMB 528. Credit towards a degree in Cellular, Molecular and Microbial Biology will not normally be given for independent research programs given by other departments, as these fall outside the field defined for credit in the Department of Biological Sciences.

CMMB 528 will be conducted within the jurisdiction of the Program of Cellular, Molecular and Microbial Biology. Projects may be done in the laboratories of members of other departments in the Faculties of Science and Medicine but such projects must also be supervised by a member of the CMMB Program. In this case, both signatures will be required before approval for registration will be granted. Both the supervisor and co-supervisor will be involved in evaluation of the project and determination of the final grade. Projects undertaken outside the CMMB program must have a component that aligns with the CMMB program.

GUIDELINE PERTAINING TO REGISTRATION IN CMMB 528

1. Bring a printed copy of all pages of this form with you when meeting with a potential supervisor, co-supervisor, if necessary, and Course Coordinator (if applicable). As well, you MUST bring an unofficial, current copy of their transcripts with you when meeting with a potential supervisor. The second and third pages of this form must be completed and signed by the Supervisor, Co-Supervisor if necessary, and the Course Coordinator. Forms that do not indicate an agreed-upon value and due date for all course components will not be approved by the department. The last page of this form must be completed and signed by the student and submitted to the supervisor with the final report for the project.

2. Please return the completed form to BI 186 for approval to register NO LATER than 10 working days before the last date to change registration for the term, as indicated in the University Calendar. If approval is denied, you will be notified by e-mail. After the course is entered into the system, you will be able to register for the course online. You are not registered until the online registration has been completed. Failure to complete the form correctly will delay your registration in this course.

3. If this is a sixth course, you must obtain consent of the Faculty - please obtain the appropriate form (Change of Registration) from the Registrar’s website. (www.ucalgary.ca/registrar/forms_students/)

4. Students must have completed the BioSci core with a current GPA of 2.75 or higher.

5. Departmental approval will not be given to a 528 or 530 project course being carried out in the same lab/with the same supervisor as previous or simultaneous 528/530 project courses, unless there are extraordinary circumstances.

GUIDELINE PERTAINING TO THE CONDUCT OF CMMB 528

1. A student must turn in a project proposal and literature review to the supervisor, and co-supervisor where appropriate, within six weeks. Students producing unsatisfactory proposals will be required to either rewrite the proposal or withdraw from the course. A student cannot continue in the course until a satisfactory proposal is submitted, which must be within two months of starting the project.

2. A student is expected to carry out a research project over the period of the course with a minimal estimated time commitment of 10-12 hours per week including reading, writing preparation and lab work, and is required to meet with the supervisor(s) on a periodic basis to discuss progress.

3. At the completion of the project, a final report written in the format of a research journal paper must be submitted to the Supervisor by the last day of classes or other date agreed with supervisor. In the case of co-supervised projects, the report will be assessed by both the Supervisor and the Co-Supervisor and a grade awarded as a result of consultation between these two individuals. The grade will be submitted to the Department of Biological Sciences by the Program faculty member no later than 11 days following the last day of classes.

4. All CMMB 528 students must present an oral presentation on the research they have carried out during the time registered in the course. The presentation will be normally assigned during the Biological Sciences Student Conference in April. Data presented in the seminar and report must be the student's own data, collected over the period of the course.
CMMB 528 - Independent Studies in Cellular, Molecular and Microbial Biology
This is to confirm that I/we am/are willing to supervise

________________________, I.D. ____________________________

in CMMB 528. _____ for the following terms/year ________________

The title for the course will be: (Must not exceed 26 characters, including spaces)

________________________

and it may count towards a major in

CELLULAR, MOLECULAR AND MICROBIAL BIOLOGY / BIOLOGICAL SCIENCES.

The following component values have been agreed upon by the student and supervisor(s):

<table>
<thead>
<tr>
<th>Course component</th>
<th>Due date (if applicable)</th>
<th>Suggested value range (% as Total = 100%)</th>
<th>Agreed value in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal</td>
<td>Within six weeks</td>
<td>10-25</td>
<td></td>
</tr>
<tr>
<td>Progress Report</td>
<td>Halfway through course</td>
<td>0-20</td>
<td></td>
</tr>
<tr>
<td>Research component (in 3 subcomponents, if desired)</td>
<td>N/A</td>
<td>20-45</td>
<td></td>
</tr>
<tr>
<td>3a __________________</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3b __________________</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3c __________________</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Report</td>
<td>Last day of classes</td>
<td>25-45</td>
<td></td>
</tr>
<tr>
<td>Oral presentation</td>
<td>Last or second-last week of classes</td>
<td>10-20</td>
<td></td>
</tr>
</tbody>
</table>

Letter Grade Conversion
A+  ≥ 92,  A  ≥ 85, A- ≥ 80, B+ ≥77, B ≥ 73, B- ≥ 70, C+ ≥ 67, C ≥ 64, C- ≥ 60, D+ ≥ 55, D ≥ 50, F < 50

Student name (please print) ____________________________

Phone ____________________________
e-mail address ____________________________

Address

Student signature ____________________________

Date ____________________________

Program Supervisor signature ____________________________ (please print name as well)

Date ____________________________

Out-of-Department Supervisor signature ____________________________ (if relevant) (please print name as well)

Date ____________________________

(Please provide e-mail & phone number if out of Department)

Signing this page indicates that both supervisors approve of the proposed project and have agreed upon the value and due dates for all course components.

Course Coordinator ____________________________ Date ____________________________

This information is collected under the authority of the Freedom of Information and Protection of Privacy Act and the Universities Act. It is required to document registration in the course and will form part of the student record. If you have any questions about the collection or use of this information, please contact BI 186.

Departmental Approval (BI 186) ____________________________ Date ____________________________
The following constitutes an agreement between:

**Colleague or Student:** ________________________________

**Laboratory Supervisor:** ________________________________

This statement is to attest that, during the period of your research programme in my laboratory, all original materials and data will be kept in a form that can be recovered and re-evaluated in the laboratory. All data and notebooks have to remain in the lab as required for publication purposes and pending federal and university regulations; failure to do so will result in a failing grade in the course. When your project is complete, you must also sign and submit the checklist on the next page to your Supervisor; failure to do so will result in a failing grade in the course.

Any person who has substantially contributed academically to a study being reported in a publication or presentation, either in the conception, design or execution of any experimental work, interpretation of data or drafting the article, should be included as an author or given other appropriate acknowledgement. It is understood that the results that you will produce in the laboratory may lead to primary publication(s) that may be co-authored by both of us following recognized journal rules. In any such case, neither of us shall submit any of this work for primary publication without the other, except by mutual consent.

In the case of such a joint authorship, it is your responsibility to provide up-to-date contact information to me after you leave the laboratory so that you can be contacted to provide input into manuscript preparation and give permission to have your name included as a co-author on the manuscript. Failure to update me with your contact information could jeopardize your co-authorship on future publications. Thus, should you not provide me with up-to-date contact information or should you refuse to be added as a co-author, I can submit work for primary publication without you as co-author.

I reserve the right to utilize any of these data for purposes of teaching, reviews, textbooks or grant applications. If I utilize any of your work for these purposes, I will acknowledge it by joint authorship, reference to your abstract, paper or thesis, or (if yet unpublished) by an appropriate statement such as ‘your name, unpublished observations’.

If you independently provide novel contributions to the work that results in a patent, your rights of partial ownership will be governed by the current rules for Intellectual Property as outlined on the webpage of the Office of Vice President Research (http://www.ucalgary.ca/research/office-vice-president-research/compliance)

Signatures:

_________________________________  _________________
Supervisor  Date

I agree with this statement:

_________________________________  _________________
Colleague or Student  Date

This information is collected under the authority of the Freedom of Information and Protection of Privacy Act and the Universities Act. It is required to document the agreement. The information will form part of the student record. If you have any questions about the collection or use of this information, please contact BI 186.
INDEPENDENT PROJECT COMPLETION CHECKLIST

☐ The student (_________________________________) has cleaned up all of her/his laboratory experiments and instruments to the satisfaction of the supervisor

☐ The supervisor has been made aware of the presence of any hazardous materials and chemicals that the student has used, and arrangements have been made for proper storage or removal.

☐ Biological materials generated during the course of the work have been disposed of, or properly preserved and stored with adequate documentation.

☐ The student certifies that s/he has made mutually acceptable arrangements with the supervisor for the storage of all data, materials and documents generated during the project.

☐ The student has provided up-to-date contact information and has submitted a final report to the Supervisor or Course Coordinator (or satisfactory arrangements have been made for the submission of this report). Please indicate these arrangements and initial (___): _________________________________

☐ The student has returned all key(s) to the laboratory and any other work spaces to the Biological Sciences Office

        Confirmation by Biological Sciences office staff (initial): __________

☐ When the student leaves the laboratory, all personal effects will have been removed and her/his laboratory space will have been left in a satisfactory condition. If the student has arranged to remain in the laboratory subsequent to the completion of this project, all of the criteria stated above must be fulfilled to the supervisor’s satisfaction before the student leaves the laboratory.

Signatures:

_________________________________  __________________________
Student  Date

_________________________________  __________________________
Supervisor  Date

_________________________________
Co-Supervisor (if relevant)  __________________________

The Supervisor is responsible for submitted this completed and signed form to David Bininda in BI 186 when the student’s final grade is submitted. Grades for independent project courses will not be approved without submission of this form.