New Course Proposal Form

(07/2004)

Ed, Other – specify)

3. Administering
Faculty/Unit:

6. Responsible

Mathieu Blanchette

8. Course Number(s)
Indicate course number & the number of terms spanned:
(tick all that apply)

Subject/course number:

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):

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

This course consists of the lectures of COMP462 but will be assessed at the 500 level.

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.

Additional work will consist of assignments and of a substantial final project that will require to put in practice the concepts covered in the course.

Course rational (cont.)

Currently, the most closely related course offered at McGill is BINF 621 (Bioinformatics: Molecular Biology), but this course focuses on the biological (rather than computational) aspects of bioinformatics, and only students enrolled in the Bioinformatics Graduate Option can get credits for taking it. Finally, we note that having two courses sharing the same lectures is common practice in several departments (e.g. MATH 423 – MATH 533) and seems to be an effective and flexible teaching strategy.

Additional material (compared to COMP 462):

Students taking COMP 561 will be expected to do additional reading in order to write more advanced assignments. Advanced topics covered only in COMP 561 will include:

- Word statistics (Karlin-Altschul statistics)
- Advanced phylogenetics methods
- Multiple sequence alignment
- Simple statistical analysis of micro-array data.
- Advanced algorithms for peptide identification by mass spectrometry
- RNA secondary structure prediction

The class project will require a deep understanding of several of the topics listed above.