Interoffice Correspondence

To: MCS College Council
From: Department of Biological Sciences
Date: December 3, 2003
Subject: Approval Request for 03-601/Summer Internship in Computational Biology

1. Title of the course: Summer Internship in Computational Biology (03-601)

2. Target audience: Computational biology students enrolled in the M.S. in Computational Biology program who have completed two semesters of coursework

3. Prerequisites: Permission of academic advisor (and the Office of International Education [OIE] in the case of a foreign student)

4. Number of units: variable (1-12)

5. Course Description:
The summer internship provides an opportunity for computational biology students who have completed two semesters of the M.S. in Computational Biology program to obtain practical training with local companies and institutions. The course objective is the application of learned computational skills to problems in a business or research environment. Students work both individually and in teams to address real-world needs. The number of units and the weekly time commitment are dictated by the project. Together with the internship supervisor at the selected host site, one of the Carnegie Mellon computational biology faculty members advises and oversees student work on a weekly basis. A final report of the internship, written as a technical manuscript and presented to the Carnegie Mellon advisor, is required for satisfactory completion. Standard grading is used.

6. History
The genesis of this course was the summer internship opportunity offered to several of our computational biology M.S. students in 2002 by Immunetrics Inc., a small local company that develops models of inflammatory diseases for drug discovery and clinical diagnostics. Two of our students took advantage of this offer as independent study in simulation/modeling of coagulation cascades and inflammatory disease mechanisms; both worked through the summer and one continues to do research there. At least one manuscript, with our students as co-authors, is expected to be submitted to a peer-reviewed journal. Discussions with both the CEO of Immunetrics, Steven Chang, and the students themselves highlighted the immense benefits to be gained by a productive internship experience midway through coursework.

Both the Department of Biological Sciences Curriculum/Graduate Advising Committee and the faculty members have approved the course (10/14/2003). We are consulting with Ms. Lynn Young, Contracts Manager in the Office of Sponsored Research, regarding matters of intellectual property.