MEMORANDUM

Westmont College
Department of Mathematics and Computer Science

January 30, 2009

To: General Education Committee
From: David J. Hunter, for the Math/CS Department
Re: Introductory Statistics Should Not Satisfy Reasoning Abstractly GE

The Department of Mathematics and Computer Science requests that all introductory statistics courses be removed from the general education category of Reasoning Abstractly.

The GE Document states,

**Reasoning Abstractly** (i.e., Philosophy, Mathematics and Computer Science)
Courses satisfying this requirement focus on critical and analytical reasoning about non-empirical, abstract concepts, issues, theories, objects and structures. Students in these courses should learn to understand and evaluate abstract arguments and explanations, analyze abstract concepts and solve abstract problems.

Since Fall 2007, the mathematics, computer science, and philosophy faculty have held several meetings dealing with the assessment of the Reasoning Abstractly component of Westmont’s general education. Together we have reviewed the requirement, crafted learning outcomes, constructed a rubric to assess the outcomes, and discussed appropriate forms of assessment data. We have also begun collecting this data and applying the rubric.

As a result of more than a year of program review work and the discussions arising from this work, it is now clear to the department that introductory statistics courses do not adequately expose students to abstract reasoning. The issue is more fundamental than data showing poor student progress: the problem is that there simply are not enough instances of abstract reasoning in the course to generate appropriate assessment data.

Statistics is fundamentally empirical. Students learn standard methods for interpreting quantitative data, but they are not asked to evaluate abstract arguments or solve abstract problems. While some algebraic skills are used, manipulation of formal systems is not a major focus of the course.

We acknowledge that it was a mistake to recommend MA-005, Introductory Statistics, for the abstract reasoning component of general education. Indeed, it should be noted that our support for this recommendation was lukewarm at the time. We hereby rescind this recommendation and request that this course be removed from the list of courses that fulfill the Common Inquiry requirement of Reasoning Abstractly.

The department believes that the inclusion of the wording “(i.e., Philosophy, Mathematics and Computer Science)” in the GE Document implies that only these three programs may offer courses for Reasoning Abstractly. So, while we believe it is redundant to do so, we also request that no other statistics course—regardless of department—be approved for this requirement. In particular, we request that the approval of KNS-119 for Reasoning Abstractly also be revoked, and we stand opposed to any future proposals from other departments for statistics courses to meet RA.

We still believe that MA-005 remains an excellent course for meeting the Common Skill requirement of Quantitative and Analytical Reasoning.

Thank you for your consideration.