

Report from the Quantitative Literacy Committee January 2009
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Quantitative Literacy and Mission at Saint Joseph's College

The Mission Statement of the College includes a pledge to “a tradition of excellence and to a liberal education that is a united endeavor of intelligence and faith”, placing “exceptional emphasis on the education of the whole person.” The College pledges to “form graduates who are competent professionals, capable of assuming leadership roles in the world.”

To meet the pledges of our mission, we must develop students who have the ability and “habit of mind” to use and evaluate quantitative information and apply it in their personal, professional, and public roles. Quantitative literacy is an essential part of our liberal arts education, as are other fundamental areas such as reading, writing, oral presentations, and basic technological (information) literacy.

Basic quantitative reasoning skills are needed to make “competent professionals capable of assuming leadership roles in the world” and in educating “the whole person.”

At SJC, we require all students to demonstrate proficiency in other basic skills, such as reading, writing, and speaking, but not in the basic quantitative skills (so we do not have curriculum that is parallel for math/science/business students and humanities/social science students).

Therefore we believe that quantitative literacy should be a graduation requirement for all SJC students.

The Committee's next steps will be to research potential models for achieving this goal of quantitative literacy for our students and to share such models with the faculty. We have a lot of information at hand, since many institutions have been through this process and have published their outcomes. We appreciate the input we have been receiving by emails (quantlit@saintjoe.edu) and conversations.

What is Quantitative Literacy? How Is It Important?

The following excerpt from an article “The Quantitative Reasoning Program at Hollins University”, from *Current Practices in Quantitative Literacy* is worth reflecting upon.

“An intelligent citizen reads a newspaper account of an outbreak of disease in a small community. How can she tell if the number of those afflicted looms out of proportion to the expected incidence of disease? A parent must choose whether or not his child will receive a smallpox vaccine. How can he evaluate the benefits and the risks of such an inoculation? An employer asks an employee to develop a profile of the local population to provide a foundation for a marketing campaign. How can the employee assess the significance of distributions of age, race, gender, or other categories in the population? In order to become effective citizens, workers, parents, advocates, indeed in order to perform a great variety of roles, students must become competent in using and reading quantitative data, in understanding quantitative evidence and in applying basic quantitative and mathematical skills so that they can solve real life problems.”

Some specific examples of quantitative skills along with sample real life applications potentially important in our student’s liberal education are listed below (adapted from a suggested list by William Briggs):

Quantitative Concept	Applications
1. Critical and logical thinking.	Evaluating media, understanding political argument, personal law.
2. Number sense, estimation and percentages	Evaluating personal investments, taxes, retirement funds, loans, shopping decisions, currency exchanges, economic issues, social security funding.
3. Basic financial concepts.	Understanding annuities, present and future value of money, amortization
4. Exponential and linear modeling	Exploring population models, inflation, credit card debt, supply and demand, spread of disease, drug effects.
5. Statistics	Reading and evaluating case studies, medical reports.
6. Probability	Assessing risk, financial and medical decision making

Please note that this list is only meant to serve as an illustration and is not to be considered an all-inclusive list for our students.