Selected Quantitative Literacy Programs in U. S. Colleges and Universities

January, 2007

(Send additions and corrections to Lynn Arthur Steen <steen@stolaf.edu>.)

Alverno College (Milwaukee, WI). A two-stage requirement: first, a course taught by mathematics instructors to develop mathematical skills and habits of thinking, then a discipline-based course where students interpret and evaluate discipline-specific quantitative information. *Contact:* Sue Mente <sue.mente@alverno.edu>. *(Last update: 01/07.)*

Augsburg College (Minneapolis, MN). QR is a skill in the core curriculum required of all Augsburg students. Select courses across the curriculum focus on developing QR skills, for example, Persuasion, Quantitative Journalism, Community Health, Physics for the Fine Arts, Psychological Foundations of Music, Statistical Literacy, and Math of Interest. *Contact*: Tracy Bibelnieks <bibelnie@augsburg.edu>. In addition, the W. M. Keck Statistical Literacy Project, supported by the W.M. Keck Foundation, has as it goal "to develop statistical literacy as an interdisciplinary curriculum in the liberal arts." This project involves an ongoing course in Statistical Literacy. *Contact*: Milo Schield <schield@augsburg.edu>. URL: www.augsburg.edu/statlit. *(Last update: 01/07.)*

Bowdoin College (Brunswick, ME). A Q-Skills program assesses first-year students' quantitative literacy, advises students regarding appropriate quantitative courses, and provides both study groups and individual tutorials. Beginning with the class of 2010, students must complete a distribution requirement of one course involving mathematical, computational or statistical reasoning. *Contact*: Linda Kirstein<lkirstei@bowdoin.edu>. *(Last update: 01/07.)*

Carleton College (Northfield, MN). A FIPSE-supported initiative--Quantitative Inquiry, Reasoning, and Knowledge (Quirk)--prepares students to use quantitative information in a principled manner in the evaluation and presentation of arguments. New first-year seminars and revised upper-level courses involve students in applications of quantitative reasoning. Papers submitted to meet an existing portfolio requirement are being used to assess whether and how students use quantitative evidence in their regular assignments. *Contact*: Neil Lutsky <nlutsky@carleton.edu>. URL: apps.carleton.edu/collab/quirk/. *(Last update: 01/07.)*

Central Washington University (Ellensburg, WA). A broad program designed to develop and assess students' capabilities in "analytical thought, symbolic reasoning, and quantitative analysis." *Contact*: Stuart Boersma <boersmas@cu.edu>, Aaron Montgomery <montgoaa@cwu.edu>, or Linda Beath <beathl@cwu.edu>. URL: www.cwu.edu/~avpugrad/assessment.html. *(Last update: 01/07.)*

Colby Sawyer College (New London, NH). A growing program based on designing several first mathematics courses in quantitative literacy and developing amplifications in the majors and throughout the curriculum. *Contact:* Semra Kilic-Bahi <skilic-bahi@colby-sawyer.edu>. *(Last update: 01/07.)*

Dartmouth College (Hanover, NH). Extensive online QL resources at the Center for Mathematics and Quantitative Education. *Contact*: Dorothy Wallace <dorothy.i.wallace@dartmouth.edu> or Kim Rheinlander <kim.rheinlander@dartmouth.edu>. URL: math.dartmouth.edu/~mqed. *(Last update: 03/05.)*

DePaul University (Chicago, IL) An interdisciplinary course emphasizing quantitative reasoning, technology, and active learning in multidisciplinary contexts is offered by the university's Quantitative Reasoning Center and is required of all students. *Contact*: David Jabon <djabon@depaul.edu> URL: qrc.depaul.edu/. *(Last update: 01/07.)*

DePauw University (Greencastle, IN). An established "competence program" in quantitative reasoning is supported by a Q-Center for students and regular workshops for faculty who teach Q-courses. Assessed through surveys of faculty and students. *Contacts*: Mark Kannowski <kannowski@depauw.edu> or Rich Martoglio, <rmartoglio@depauw.edu>. URL: www.depauw.edu/admin/arc/q_center/index.asp. *(Last update: 01/07.)*

Hamilton College (Clinton, NY). A quantitative literacy requirement which includes passing either a QSkills Exam, a designated "Q" course, or a non-credit QLit Tutorial. A QLit Center offers drop-in peer tutoring to support quantitative courses. *Contact*: Mary O'Neill <moneill@hamilton.edu>. URL: www.hamilton.edu/academics/resource/qlit/ *(Last update: 01/07.)*

Hollins University (Roanoke, VA). Two quantitative reasoning requirements (q and Q) are required for graduation and are supported by a QR-Center; an NSF grant supported development of Q courses across the curriculum. *Contacts*: Phyllis Mellinger <pmellinger@hollins.edu> or Caren Diefenderfer <cdiefenderfer@hollins.edu>. URL: www1.hollins.edu/depts/qr/index.html. *(Last update: 01/07.)*

Hood College (Frederick, MD). A college-wide Quantitative Reasoning Task Force charged with developing recommendations to improve students' quantitative reasoning skills is using a BlackBoard site where task force members can post links to resources and hold online discussions. *Contacts*: Betty Mayfield <mayfield@hood.edu> and Kimber Tysdal <tysdal@hood.edu> (mathematics), and Kerry Strand <strand@hood.edu> (sociology). *(Last update: 01/07.)*

James Madison University (Harrisonburg, VA). A systemic, institution-wide approach to quantitative literacy, including assessment and development of a QR instrument and a curriculum designed for elementary and middle school teachers. *Contacts*: David Brakke <brakkedf@jmu.edu> (for program); Donna Sundre <sundredl@jmu.edu> (for assessment); David Carothers <carothdc@jmu.edu> (for teacher curriculum). *(Last update: 01/07.)*

Johnson State College (Johnson, Vermont). An interdisciplinary QR committee is studying ways to revise a long-standing mathematics requirement that students typically have met with introductory courses in statistics and finite mathematics. As a first step, the committee devised and administered a QR assessment to nearly 300 students. Using data from this assessment, the committee anticipates that the college will soon change the general education requirements to address better QR goals reflected in the assessment. *Contact*: Glenn Sproul <glenn.sproul@jsc.vsc.edu>. *(Last update: 01/07.)*

Keene State College (Keene, NH). A QL initiative is a foundational component of Keene State's new Integrative Studies Program. All Keene students will be required to take an outcomes-based quantitative literacy course in their first year. Faculty from disciplines across the campus will teach the QL courses. *Contacts*: Eileen Phillips <ephillips@keene.edu>; Dick Jardine <rjardine@keene.edu>; Mike Cullinane <mcullina@keene.edu>. *(Last update: 01/07.)*

Lawrence University (Appleton, WI). A "Mathematical Reasoning or Quantitative Analysis Requirement" has stimulated discussion about what quantitative reasoning means and how to foster it. Course offerings include statistics across the curriculum in three flavors: for economics, for social science, and for natural science. *Contact*: Joy Jordan <joy.jordan@lawrence.edu>. *(Last update: 07/01.)*

Loyola Marymount University (Los Angeles, CA). Several sections of a fairly typical QL course include a civic engagement (CE) component based on group projects that use mathematics to address a campus or local community issue. This CE version, developed under a SENCER (Science Education for New Civic Engagements and Responsibilities <www.sencer.net>) grant, has been designated a SENCER Emerging Model course. *Contact*: Thomas Zachariah <tzachari@lmu.edu>. URL: myweb.lmu.edu/tzachari/sencer.html. *(Last update: 01/07.)*

Macalester College (St. Paul, MN). A college-wide graduation requirement in Quantitative Thinking focuses on application to policy analysis. Examples of emphases include: describing the world quantitatively, evaluating sources and quality of data, association and causation, trade-offs, uncertainty and risk, and estimation/modeling/scale. *Contact*: David Bressoud <bressoud@macalester.edu>, URL: www.macalester.edu/qm4pp/program/. *(Last update: 01/07.)*

Northern Illinois University (DeKalb, IL). A quantitative literacy requirement aims to help all students increase their ability to reason logically and quantitatively with an emphasis on solving problems common in life experiences. All students take at least one course and most take follow-up requirements according to their majors. *Contact*: Linda Sons <sons@math.niu.edu>. *(Last update: 03/05.)*

Skidmore College (Skidmore, NY). A two-level requirement. Before the end of the sophomore year students must demonstrate basic quantitative competence either via sufficient SAT score, or by passing an in-house exam, or by passing a specific remedial quantitative reasoning course. Before the end of the junior year, each student must pass a "QR2" course that devotes a significant portion of the syllabus to quantitative methods and issues. These courses are available in many departments. *Contact*: Gove Effinger <effinger@skidmore.edu>. *(Last update: 03/05.)*

Trinity College (Hartford, CT). Two levels of quantitative literacy courses are offered through the Aetna Math Center, as well as Center-sponsored quantitative enrichment throughout the curriculum, including the First Year Program and courses in human rights, political science, history, classics, sociology and international studies. URL: www.trincoll.edu/depts/mcenter/. *Contact*: Judith Moran <judith.moran@mail.trincoll.edu>. *(Last update: 03/05.)*

University of Arkansas (Fayetteville, AR). One version of a course entitled "Mathematical Reasoning in a Quantitative World," which satisfies the mathematics requirement for the BA degree in arts and sciences, began experimentally in 2004 as quantitative literacy for journalists. Informally known as NewsMath, this section uses newspaper and magazine articles brought to class by the instructor and students for discussion and critique of the quantitative content. There is a heavy focus on reasoning as opposed to algorithms. *Contact*: Bernard Madison <bmadison@uark.edu>. *(Last update: 01/07.)*

University of Massachusetts (Boston, MA). A university-wide Math/Quantitative Reasoning requirement seeks to help all students improve their ability to reason logically and quantitatively. Requirements differ by college:

College of Liberal Arts: Students have the option of taking a technology-rich quantitative reasoning course. URL: http://www.umb.edu/academics/ undergraduate/office/QR.htm. *Contact*: Maura Mast <maura.mast@umb.edu>

College of Public and Community Service: Students must demonstrate competence at two levels, with an emphasis on using quantitative skills to reason about public and community issues. URL: www.cpcs.umb.edu/undergrad/curr_degree_req/core_highlights /qr_highlight.htm. *Contact*: Marilyn Frankenstein <marilyn.frankenstein@umb.edu> *(Last update: 03/05.)*

University of Nevada (Reno, NV). Brief modules on real QL issues (e.g., drug testing). *Contact*: Jerry Johnson <jerryj@unr.edu>. URL: unr.edu/homepage/jerryj/NNN/QL.html. *(Last update: 03/05.)*

University of South Florida (Tampa, FL). The College of Arts and Sciences at USF is implementing a new general education curriculum in which each course that is certified for general education has to show that it meets a threshold number of distinct dimensions, one of which is quantitative literacy. Contacts: Len Vacher <vacher@chuma1.cas.usf.edu> (geology); Bruce Cochrane <coch@cas.usf.edu> (biology) and Bob Potter <potter@chuma1.cas.usf.edu>.*(Last update: 01/07.)*

University of Washington, Bothell (Bothell, WA). A "QR across the curriculum" program is coordinated through a Quantitative Skills Center that supports both students and faculty in any course requiring quantitative skills or reasoning. *Contact*: Cinnamon Hillyard <chillyard@uwb.edu>. URL: www.uwb.edu/qsc. *(Last update: 01/07.)*

University of Wisconsin (Madison, WI). A two-stage general education program in quantitative reasoning is required for graduation of all students in the College of Letters and Science. Each stage may be met by achieving appropriate scores on the mathematics placement exam or an Advanced Placement test, or by passing a designated Quantitative Reasoning course, one for level A, another for level B. *Contact*: Leslie Smith <lsmith@math.wisc.edu>. (*Last update*: 03/05.)

University System of Georgia (Atlanta, GA). A Regents proposal, currently on hold, would require all college sophomores in Georgia to pass a quantitative skills test. *Contact*: Kathleen Burk <kathleen.burk@usg.edu>. *(Last update: 03/05.)*

Virginia Commonwealth University (Richmond, VA). A general education requirement on "quantity and form" includes courses in mathematics, statistics, and critical thinking. URL: www.has.vcu.edu/students /ug_edu/gen_edu/quantity_form.html. In addition, the Virginia Adult Learning Resource Center (VALRC) conducts a state-funded training initiative, called the Virginia Numeracy Project, to provide professional development on numeracy instruction to educators of adult literacy students. Four strands are offered: Numbers and Number Sense; Patterns and Algebra; Measurement and Geometry; Data and Statistics. Workshops are free to Virginia Adult Education practitioners. *VALRC*: 800-237-0178. *Contact*: Aimee Ellington <ajellington@vcu.edu>. *(Last update: 03/05.)*

The Washington Center (Olympia, WA). Resources for quantitative literacy across the curriculum. *Contact*: Emily Decker <deckere@evergreen.edu>, Gillies Malnarich <malnarig@evergreen.edu>. URL: www.evergreen.edu/washcenter/project.asp?pid=63. *(Last update: 03/05.)*

Washington State University (Pullman, WA). A pilot program in quantitative literacy across the curriculum has been funded for four departments: Mathematics, English, Sociology, and Mechanical Engineering. Courses in the major will incorporate projects tying QL to the major. Contact: Kimberly Vincent <vincent@math.wsu.edu>. *(Last update: 01/07.)*

Wellesley College (Wellesley, MA). A two-tiered program in quantitative reasoning across the curriculum. *Contact:* Corrine Taylor <ctaylor1@wellesley.edu>. URL: http://www.wellesley.edu/QR. *(Last update: 03/05.)*