

Science at Augsburg Initiative

Updated April 18, 2007

Purpose of Science at Augsburg Initiative

- To articulate a long-term vision for excellence in the sciences at Augsburg College that emphasizes:
 - 1) Preparing all students for effective citizenship in the 21st Century,
 - 2) Preparing students called to science-related professions for successful lives of effective service,
 - 3) Creating energetic intersections between science and other academic disciplines (such as Religion, Environmental Studies, Business, Nursing, Education, Physician Assistant Studies, Metro-Urban Studies), and
 - 4) Serving, and being a model for, the surrounding community.

- To create internal and external messages that build the case for a new building complex that provides venues for realizing the vision for excellence in the sciences at Augsburg College, a vision that puts science in conversation with the broader internal and external community.

- To develop and implement fundraising strategies that support the vision and build upon the success achieved through the initial Capital Campaign.

Vision for the Science at Augsburg Initiative

The emerging vision for the Science at Augsburg Initiative stems from an unbroken chain of motivations with no weak links:

- Core beliefs about:
 - What science is
 - The role of science in an Augsburg education
 - The role of science for Augsburg's ability to serve
- Objectives based on these core beliefs:
 - For Students
 - For the College
 - For the Community
- Experiences and interactions required to achieve these objectives
- Programs built on these experiences and interactions
- Facilities needed to enable these programs
- Funding needed to build these facilities

Discussions about the Science at Augsburg Initiative have taken place throughout the academic year. Department chairs and faculty from the Natural and Social Sciences Division, stakeholders from a variety of academic disciplines and programs, and faculty and staff from the Center for Teaching and Learning and Information Technology have engaged in rich conversations about the role of science in an Augsburg education. These stakeholders have examined learning objectives, experiences, programs, and

facilities for science education in the 21st Century. These discussions led to the development of a draft statement of core beliefs titled, *Credo Scientiae*, which was written by Stu Anderson, Department of Physics. The purpose of the *Credo* is to make a clear statement about what we believe science is and what Augsburg's programs should emphasize based on these beliefs.

Additional review of the *Credo* this spring with faculty, staff, and students led to the development of a revised statement (noted, below). Barbara Farley is currently meeting with individual departments in the Natural Sciences and Social Sciences Division to further articulate learning objectives based on these core beliefs, experiences and interactions required to achieve these objectives, and the development of curricula grounded in beliefs, objectives, experiences, and interactions.

In addition to internal discussions, President Pribbenow, Barbara Farley, and Stu Anderson have met with industry partners, including representatives from Medtronic, Fairview, and the Science Museum of Minnesota, to gain an external perspective on the Science at Augsburg Initiative.

Holabird & Root architects, James Baird and Ernie Wagner, are meeting with faculty, staff, and students on April 26th to explore new developments in the construction of science buildings since the current design was originally conceived and to discuss facilities needed to enable curricular programs articulated by Augsburg faculty. Discussions about teaching and learning spaces in the sciences are part of a broader institutional effort to think strategically about learning spaces, both formal and informal.

Next steps following April conversations with departments and the architects include a detailed review of current building plans and the consideration of new strategies to meet identified needs that are grounded in the *Credo* and a vision for what Augsburg's programs should emphasize.

Credo Scientiae

What do we believe science is?

Given these beliefs, what should our programs emphasize?

We believe that:

- the cycle of inquiry known as 'the scientific process' has its roots in what it is to be human
- each of us use cycles of inquiry to construct and refine understandings of ourselves and the world around us - and have done so our entire life
- constructing understandings that work is intrinsically joyful and satisfying

*Our programs should emphasize **science as a search for meaning***

We believe that:

- conversation with nature through experiment is the primary touchstone for evaluating and refining our understandings of the material world
 - what we learn in these conversations depends on the questions we ask and how we ask them
 - creating and managing high-fidelity conversations is a central feature of science
- Our programs should emphasize **science as a conversation with nature.***

We believe that:

- understandings vary in specificity, ranging from a perceived link between certain characteristics or events to quantitative descriptions
 - all descriptions of understanding can and should be examined and evaluated
 - metamorphosis of an understanding - from inception towards one that can be expressed in quantitative form – requires and flows from increasing precision in verbal descriptions
- Our programs should emphasize **science as a quest for reliable quantitative understanding.***

We believe that:

- understandings are constructed by us
 - the cycle of inquiry compels us to examine, revise, and even replace our understandings
 - our understandings, though reliable and useful at the moment, may or may not correspond to ultimate truth
- Our programs should emphasize **scientific knowledge as intrinsically uncertain and changeable.***

***What do we believe about the educational context that is Augsburg?
Given these beliefs, what should our programs emphasize?***

We believe that:

- the experience of constructing reliable understandings through cyclic inquiry is a fundamental to a liberal arts education
- the liberal arts in turn shapes the experience of constructing understandings and informs the motivations for inquiry
- inquiry that actively crosses traditional boundaries - among and beyond scientific disciplines – provides a context-rich setting that better prepares students to deal with increasingly multifaceted real-world problems

*Our programs should emphasize **science in context, seeking out and developing intersections between departments, programs, and divisions.***

We believe that our Lutheran heritage:

- compels us to use the cycle of inquiry in stewardship to each other and in service to all of God's creation
- frees us to inquire boldly and explore wherever the cycle of inquiry may lead
- calls us as citizens to understand, question, and make decisions about scientific issues

*Our programs should emphasize **the purposeful practice and informed guidance of science as essential ingredients of citizenship.***

We believe that our urban setting:

- provides ready access to natural environments relevant to an increasing fraction of the world's population and surrounds us with real-world problems that our students can learn from and help to solve
- is rich with intellectual resources in the form of educational and corporate institutions that we partner with to expand the breadth and depth of our students' educational and service experiences
- calls us to serve the underserved within its reach – residents, elementary and secondary schools, and community organizations – through the creation of on-campus opportunities as well as direct outreach efforts

*Our programs should **leverage our urban setting to emphasize the relevance, variety, and excitement of science in response to our call to serve where we are.***

Background Reference Points

- The following science education themes were identified as integral parts of the building design process during President Frame's tenure: 1) Interdisciplinary coursework within the natural and behavioral sciences, 2) Broadening a research-rich undergraduate environment, and 3) Science service to the community.
- The Project Kaleidoscope (PKAL) model has played a prominent role in advancing the College's work on curriculum development in the sciences, design strategies for the proposed science facility, and new opportunities for faculty and student research.
- The architects selected to design the building are Holabird & Root, who have designed many science buildings for colleges (also designed St. Olaf's science building that is under construction).

President Pribbenow, Barbara Farley, Tracy Elftmann, and Dick Adamson met with James Baird and Ernie Wagner from Holabird & Root on August 31, 2006 to review the building plans that had been developed for the new wing. Barbara Edwards Farley and

Mark Strefeler, Chair of the Biology Department, met with James Baird at a PKAL Leadership Conference in November to discuss the alignment of the current building design with needs identified during the fall. Stu Anderson and Barbara Farley have worked with the architects throughout the spring.

- A grant was received from the State of Minnesota Office of Environmental Assistance to conduct planning to determine the sustainability of the proposed science building. Working with Holabird & Root and the Whyte Group, an energy efficient design was developed. During the process, the use of LEED standards for rating/certification of the building was also accomplished.

The College has reviewed plans to include a green roof that would serve as an additional learning space.

- Original fundraising goal: \$25 million (\$20 million to build a new facility; \$5 million to renovate the existing Science Hall). This goal did not include an endowment for building maintenance. As of December 4, 2006, the College has raised \$6,754,823 (\$3 million from federal government earmarks).

- When the Access to Excellence Campaign began, Augsburg's donor and potential donor pool was not large enough to support the original fundraising goal, and we saw limited success from a segmented strategies approach (i.e., appealing specifically to various groups of donors, such as alumni who are in the medical professions, science and math major alumni, etc.). We have since expanded our list of donors and potential donors, and, as we rearticulate the vision for the sciences at Augsburg and test our marketing message, continue the process of identifying possible lead donors to this effort.

Accountabilities

- The Science at Augsburg Initiative will build upon the work that was accomplished between 1994-2006.
- A revitalized vision for the project will provide a roadmap for the future role of science in an Augsburg education and it will present a compelling case for how new and renovated buildings will enable the success of the College's programs.
- The Science at Augsburg Initiative will actively engage current and new stakeholders in achieving stated objectives.

Processes and Timeline

- Review current building plans with architects and consider new strategies to meet identified needs (May 31, 2007)
- Identify current and future academic program and outreach opportunities related to the vision for the Science at Augsburg Initiative (September, 2007)

- Define and articulate a new fundraising goal and timeline (September, 2007)
- Test new message with a broad base of internal and external groups (e.g., users, donors, constituents, corporations) (December, 2007)
- Determine internal and external leadership for the Science at Augsburg Initiative (December, 2007)
- Re-bid the project to provide a current estimate of building project costs (December, 2007)
- Develop and implement individual fundraising strategies (Spring 2008)
- Develop marketing materials (Summer 2008)
- Launch a refreshed Science at Augsburg Campaign (2008-09)
- Identify and expand potential donor pool (ongoing)