

**Student Innovation Center at the Rochester Institute of Technology**  
**Innovation Curriculum Working Group Charge Report**  
**11/1/08**

***Introduction***

The more things change, the greater the need for innovation and creativity. RIT can become "the Innovation University" by helping its students collaboratively synthesize their deep and diverse strengths in science, art and technology to address societal and economic challenges. The new Student Innovation Center (SIC) can advance this goal by creating physical, virtual and social "spaces" where diverse teams learn to collaborate, communicate, conceptualize, invent, experiment, and iterate to both develop *and realize* new solutions to worthy problems.

SIC will thus bring an architecture of process to RIT, developing and exploiting our "unfair advantage" of strong programs in both technology and the arts, relative to less diverse or less ambitious Scientific Technical Engineering and Mathematics (STEM) schools.

**Charge A - Recommendations of the Innovation Curriculum Working Group (ICWG)**

Through discussion, research, and conversation with students and faculty in Town Hall meetings and classes, the *Innovation Curriculum Working Group* has developed specific and generic activities and approaches for the SIC, detailed in the **appendices** to this report.

- **Physical facilities.** Any space that hopes to accommodate and shape an unknowable future will need to be experimental, adaptable, and responsive to needs that will vary from hour to hour and from year to year. Students and faculty are already collaborating to use physical design, information technology, and interaction design to make the SIC a monument to multi-use flexibility and reconfigurability. Their efforts should be endorsed and supported
- **Virtual facilities.** RIT is well-positioned to use network-based technologies of collaboration and interaction to help integrate and catalyze existing human resources, physical resources, and initiatives that can support collaborative innovation at RIT. Development of such web-enabled tools should be put on for prominent display in both the physical SIC and in a virtual SIC, accessible to allied innovators worldwide.
- **SIC Programming.** Through programming that develops and nurtures a self-sustaining culture of creative collaboration, the "social SIC" will help teams of RIT students and faculty learn to recruit, mentor, communicate and collaborate across disciplines, and "across town", in order to understand and practice all stages of innovation (from problem-formulation and idea-generation, to realization and deployment).
- **Governance and Administration**

SIC should be administered under the Provost's office, independent of any specific college. Three distinct but overlapping functions will be required to effectively staff the center — programmatic/creative, administration, and strategic. Although two or more "responsible adults" should be charged with these functions, it is important that they work in collaboration with student leaders who

have significant and prominent responsibilities. One vehicle for this collaboration will be an advisory board comprised of key RIT stakeholders, as well as innovation-related service providers, alumni, and key members of the civic and business communities.

- **Activities and Approach**

To promote innovation-related activities, the SIC will work closely with existing RIT programs including colleges, departments, centers, etc. to avoid replicating existing resources. The SIC will help existing as well as emerging innovation-related activities to connect students and to collate efforts that allow both natural and unlikely synergies to be realized [existing examples include Open Publishing Lab (OPL), Lab for Social Computing (LSC), and the Simone Center]. Space will be allocated for limited and definitive periods of time with the sponsorship of specific faculty, departments, or corporations. Other activities/projects in the center will be more open, allowing for free form activities and completely flexible spaces.

- **Three key Administrative functions:**

1. Programmatic/Creative function - two year faculty appointment - coordinates workshops, seminars, social networks, internal and external relationships, etc. Identifies, includes, and encourages new and existing innovation-related RIT activities through the SIC. Develops relationships and collaborations with solution seekers and solution-providers external to RIT.
2. Strategic function - focuses on the overall and strategic advancement of SIC, liaisons with the Provost's office and other key stakeholders within the university, and with (through the development and grant offices), the business community, alumni, and community representatives
3. Administrative function - provides continuous administration for the ongoing functioning of SIC including but not limited to operational issues and promotion. Provides logistical management and support for student teams.

In response to specific questions posed in Charge A,

SIC will be:

- A nexus of multi-disciplinary and interdisciplinary innovation for students throughout RIT
- A gallery, showcase, and "please touch" museum for Innovation
- A workplace where students innovate with each other and with clients, businesses and community organizations
- A place for Innovation Town Halls, Seminars, and Workshops that support all aspects of Innovation
- A virtual hub and directory to Innovation-relevant resources elsewhere

Students in SIC are:

- Students who apply for mini-grants, and other special privileges
- Walk-ins and pre-freshmen who get oriented, enticed, and recruited as apprentices on projects
- Student employees, coops, and mentors
- Participant in special events, workshops, lectures, etc.

SIC supports individual and team projects and proposals through:

- Virtual facilities (mentioned above) that create electronic social spaces to connect projects, solutions, students, and stakeholders.
- Workshops and public events (detailed and specified in the appendices) that are organized to support the following activities
  - Campus, business, and community solution-seekers will be invited to recruit teams to solve worthy problems
  - Recruiting fairs will occur each quarter to engage students in intra- and extra-SIC innovation initiatives
  - New technology showcases will allow vendors to recruit users, coops, and stimulate innovation
  - Quarterly student presentations, proposals and demos will elicit and celebrate mini-grants, mentorships, and advisory board memberships
    - *Special consideration will be given to proposals and projects that promise to bring fresh innovation to the SIC itself, thus ensuring that the SIC is ever-brimming with innovating students and student innovations.*

Points of the Coon/Mayberry report that are relevant to the programming for the SIC?

*Our response to this question is now part of our Recommendations for Charge B, dealing with specific initiatives that should be given immediate institutional support.*

Learning Outcomes - measured by faculty mentors, self-evaluation, the Advisory Board and the three administrative functions. They will use the following assessment tools: surveys, entry and exit interviews, project reviews, peer and self evaluation by all stakeholders.

- understanding and practice in, the entire innovation process (conceptualization, experimentation, iteration, feedback, realization, etc.)
- understanding and appreciation of historical, cultural, social, environmental contexts as guideposts to future innovation
- ability to join, contribute or lead multi-disciplinary and inter-disciplinary teams
- understanding of, and proficiency in, technologies of communication and collaboration
- ability to take risks, expose works-in-progress, improvise, admit ignorance and explore
- ability to shape processes to achieve goals and produce realizations
- understanding and appreciation for other disciplines and diverse perspectives

**Charge B** - Broad recommendations for how innovation and creativity can be a hallmark of RIT curriculum portfolio.

Support vigorous efforts led by the Provost to loosen up the curriculum and provide students with time, credits, courses and alternatives to innovate.

Support the development and expansion of ongoing initiatives aiming to create a cross campus culture of creative collaboration, such as the Imagine RIT festival, the Collaborative Innovation Program (CIP), Rochester Artech, Idea Factory Innovation sessions

Empower the Honors pre freshman summer program to create a cadre of RIT innovators

Collaborate with Faculty Institute on Teaching and Learning (FITL) and Provost's Learning Innovations Grant program (PLIG) to support and develop faculty innovation initiatives.

Support the following ICWG recommendations for institutional-based attention and implementation in AY 08-09:

- **Hire the and empower leadership for the SIC's three functions**– 1) Programming/Creative, 2) Strategic, and 3) Administrative
- **Establish the Advisory Board** - comprised of the three leadership functions (Programming/Creative, Strategic, and Administrative), Faculty members, accomplished Student Innovators, Industry Mentors (specifically include Alumni with Development's assistance) and SIC student assistants.
- **Fund the creation of a Virtual Facilitation-Social Network.** - An electronic social space will connect innovative projects, solutions, interested students, and other stakeholders. Open access to the social network will enables students to find, join, and track team members, mentors, projects, and resources.
- **Establish the Mentoring Program** – Establish a set of faculty mentors for the SIC who are dedicated to the end to end creativity and innovation process and will support students in their initiatives. Many existing student mentoring programs exist within the RIT community. The SIC will work with existing programs to make those programs aware of the creativity and innovation opportunities supported by the SIC Mentoring Program? The SIC will also work to establish new supplemental programs to catalyze innovative activities throughout the process.
- **Establish and Fund Grant Programs and Competition.** The SIC will develop a vibrant mini-grant program to promote innovation within RIT. SIC will also assist students in applying for grants from outside sources.
- **Plan Programming Workshops/Events** 1) advance students along every phase of the innovation process 2) assist multidisciplinary teams to form and operate effectively 3) explore challenging problems and unique opportunities together with market and technology road-mapping 4) promote new entrepreneurial ventures and sustainable social innovation. *Many of these activities, while already present within RIT, will be included in the center's portfolio of events in order to facilitate collaboration across the Institute.*

- **Empower the Collaborative Innovation Program (CIP) to:**
  - Create a cadre of RIT innovators and be explicitly accessible to appropriate non honors students
  - Expand **Innovation and Invention courses** [see Coon/Mayberry report] – this is already a core part of the CIP program. Encourage other faculty to explore this uncharted territory with their students.
  - Absorb the activities that are described in the **Cross-Disciplinary Learning Communities** recommendation. [see Coon/Mayberry report]
  - As a **clearing house and repository** for innovation capabilities within and beyond the university, the SIC will guide students and drive student success by connecting them with RIT and community resources, other students, faculty, staff and community members. The CIP is already developing tools that compile information about campus (and other) innovation resources, methods and processes. Enhancement of these tools should be given the green light this year as an official charge of the CIP program, in collaboration with RIT Libraries, the ImagineRIT program, etc. Ultimately, these tools will become part of the SIC "operating system" and will be the responsibility of the SIC's leadership.
  
- **Further develop the Common Inquiry reading concept.** The Programming/Creative leader should work collaboratively to ensure that the annual theme for SIC is tied in to the Collaborative Innovation Program annual theme, and is also is a subtheme integrated into the Imagine RIT festival. [see Coon/Mayberry report]

- **Specifically connect innovation to the general education revisions:**

Writing, Communication and Expression within and across disciplines is a core component of the General Education Revision. Such activities constitute a major component of SIC's role within the Innovation University. We agree in principle to the evolving General Education revision and support this and other efforts led by the Provost to loosen up the curriculum to make room for Innovation.

- **Identify ways that we can measure success for how the curriculum supports an “innovation university”:** Pre and Post surveys, Portfolios, Peer and Self evaluation
  
- **Identify real or perceived barriers that might impede follow through on the guiding principles:** Silos, Intellectual Property concerns/incentives, difficulties with registration and cross-registration and restrictive advising/mentoring, curriculum inflexibility, etc.
  
- **Identify current innovation and creativity exemplars in the RIT curriculum portfolio that should/could “lead the way”. Identify champions for these recommendations:**
  - Collaborative Innovation Program (Matychak)
  - Open Publishing Lab (Albanese, Bernius & Riordan)
  - Lab for Social Computing (Lawley)
  - Simone Center (DeMartino)
  - RIT Libraries (McKenzie)
  - MERIT Senior Design Collaboratory (Smith)
  - Realization Production Development Sequence (Lundgren & Leonard)
  - Video Gaming Lab (Phelps)
  - Tinkerer's lab ", formerly the Innovation and Invention course's collaboRITorium (Schull)
  - Rochester Artech (Ganskop)
  - and others