IGSD Strategic Plan Report - May 02

The Vision of the Strategic Plan
Section 2.2 of the Strategic Plan describes WPI's vision, then lists three specific outcomes. Aspects to which IGSD's work is particularly relevant are highlighted. Evidently, IGSD and its programs are critical to achievement of WPI's strategic vision.

By 2010, WPI will be a world leader among technological universities focused on engineering, science, and management. Offering integrated theory and practice through a project-based curriculum and global opportunities at all levels of study, WPI will continue to build an environment that promotes innovative thinking, values mutual respect and diversity, highly regards scholarship and teaching, promotes ethical behavior, and engenders lifelong learning for the campus community.

The Strategic Plan goes on to list outcomes:

We will require specific outcomes from our educational and research programs. While these will vary from program to program, the overarching outcomes are three:

1. Thorough grounding in fundamentals with necessary depth in the appropriate discipline consistent with the degree sought and the highest professional competence;
2. Effective skills for success in life - ability to communicate orally and in writing; leadership and intellectual maturity; understanding of and appreciation for literary and aesthetic arts which enrich lives; able to work in multicultural, interdisciplinary teams; appreciation for impact of technology on society, including ethical, economic, political, safety issues; and
3. Sustainable lifelong learning skills.

Strategic Priorities for IGSD
The current strategic priorities for IGSD are insuring the quality of the IQP, the adequacy of the supply of well-qualified advisors of all types off-campus, and that of well-qualified IQP advisors on campus. The primary actions in response to these priorities are:

The current strategic priorities for IGSD are insuring the

- Quality of the IQP, on- and off-campus,
- Availability of adequate numbers of well-qualified advisors for off-campus, residential IQPs, MQPs, and Sufficiencies,
Availability of adequate numbers of well-qualified advisors for on-campus IQPs. The primary actions in response to these priorities are

- Continuous recruiting, mentoring, and training of new global advisors;
- Mentoring and training of new members of the faculty as IQP advisors, primarily through co-advising of projects in the Worcester Community Project Center;
- Formal evaluation of written IQP reports, now focused on specific corrective tactics.
- Development of an outcomes-based assessment process to help advisors improve and to recognize those who are the best.

A related, secondary effort is advocacy of evaluation processes for all forms of teaching that are comparable to those used for disciplinary research.

**Metrics**

Numerical measures of progress are given below in the context of various objectives of the WPI strategic plan. Some overall metrics are summarized here.

<table>
<thead>
<tr>
<th>Additional global and on-campus IQP advisors</th>
<th>AY99-00</th>
<th>AY00-01</th>
<th>AY01-02</th>
<th>AY02-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisors recruited in...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For global program</td>
<td>6</td>
<td>9</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>As WCPC co-advisors</td>
<td>0</td>
<td>4</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Pool of qualified global advisors</td>
<td>31</td>
<td>37</td>
<td>45</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global IQP Centers</th>
<th>Began full-time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok Thailand</td>
<td>1989</td>
<td></td>
</tr>
<tr>
<td>Boston, MA</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>Copenhagen, Denmark</td>
<td>1996</td>
<td></td>
</tr>
<tr>
<td>Darmstadt, Germany</td>
<td>1993</td>
<td>Ended in 1999</td>
</tr>
<tr>
<td>Hong Kong, PRC</td>
<td>2001</td>
<td>Re-started</td>
</tr>
<tr>
<td>London, England</td>
<td>1987</td>
<td>City University exchange IQPs began in 1975</td>
</tr>
<tr>
<td>Melbourne, Australia</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>Windhoek, Namibia,</td>
<td>2003</td>
<td></td>
</tr>
<tr>
<td>San Jose, Costa Rica</td>
<td>1992</td>
<td></td>
</tr>
<tr>
<td>San Juan, Puerto Rico</td>
<td>1991</td>
<td></td>
</tr>
</tbody>
</table>
Venice, Italy 1988 Originally in B term
Washington, D.C. 1975
Worcester, MA 2001
Zurich, Switzerland 2000 Switched from Darmstadt

<table>
<thead>
<tr>
<th>MQP</th>
<th>Date began</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goddard Space Flight Center</td>
<td>1997</td>
<td>Partial funding by grant</td>
</tr>
<tr>
<td>Limerick, Ireland</td>
<td>1995</td>
<td></td>
</tr>
<tr>
<td>Lincoln Labs, MA</td>
<td>2002</td>
<td>Full funding by grant</td>
</tr>
<tr>
<td>Melbourne, Australia</td>
<td>1997</td>
<td>1st completed MQP, Sydney</td>
</tr>
<tr>
<td>Nancy, France</td>
<td>2001</td>
<td></td>
</tr>
<tr>
<td>Pratt &amp; Whitney, CT</td>
<td>1994</td>
<td></td>
</tr>
<tr>
<td>Silicon Valley, CA</td>
<td>2000</td>
<td>C-term</td>
</tr>
<tr>
<td>Wall Street, NY</td>
<td>2001</td>
<td>Fully supported by fees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sufficiency</th>
<th>Date began</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darmstadt, Germany</td>
<td>2001</td>
<td>Suspended due to faculty shortage</td>
</tr>
<tr>
<td>Madrid, Spain</td>
<td>2001</td>
<td></td>
</tr>
</tbody>
</table>

Recent expansion and reallocation of project centers

IQP

- Worcester Community Project Center supported by foundation gifts
- Zurich moved from Darmstadt
- Namibia opening in place of Zimbabwe with start-up costs funded by alumni gifts

MQP

- Copenhagen MQPs at the Engineering College of Copenhagen using IQP infrastructure offered 1999-2002
- Limerick expansion tested 2001; need fee support to continue
- Silicon Valley aiming to be self-supporting but falling short
- Wall St. supported by project fees
• Nancy based upon research relationships and at low cost; graduate students recruited for Chemical Engineering.
• Johnson reopening
• Lincoln Labs providing full-time, off-campus experience without off-campus residence; supported by grant; nurturing research relationships

Sufficiency

• London B term interdisciplinary Sufficiencies (oversubscribed for B02)
• Madrid language and related themes (e.g., Spanish art and architecture)
• Darmstadt language and related; hope to resume when German faculty vacancy filled

### Enrollment Summary - current academic year (E02-D03)

<table>
<thead>
<tr>
<th>A02 - D03</th>
<th>E02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>Advisors</td>
</tr>
<tr>
<td>IQP</td>
<td>295</td>
</tr>
<tr>
<td>MQP</td>
<td>64</td>
</tr>
<tr>
<td>Suff.</td>
<td>36</td>
</tr>
</tbody>
</table>

*part-time

### Enrollment summary - current year detail (E02 - D03)

<table>
<thead>
<tr>
<th>Location</th>
<th>Students</th>
<th>Advisors</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok Thailand</td>
<td>25</td>
<td>2</td>
<td>37.5</td>
<td></td>
</tr>
<tr>
<td>Boston, MA</td>
<td>21</td>
<td>1</td>
<td>31.5</td>
<td></td>
</tr>
<tr>
<td>Copenhagen, Denmark</td>
<td>16</td>
<td>1</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Hong Kong, People's Republic of China</td>
<td>23</td>
<td>2</td>
<td>34.5</td>
<td></td>
</tr>
<tr>
<td>London, England</td>
<td>62</td>
<td>6</td>
<td>93</td>
<td>3 terms E,C,D</td>
</tr>
<tr>
<td>Melbourne, Australia</td>
<td>26</td>
<td>2</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Windhoek, Namibia,</td>
<td>16</td>
<td>2</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>San Jose, Costa Rica</td>
<td>22</td>
<td>2</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>San Juan, Puerto Rico</td>
<td>27</td>
<td>2</td>
<td>40.5</td>
<td></td>
</tr>
<tr>
<td>Venice, Italy</td>
<td>23</td>
<td>2</td>
<td>34.5</td>
<td></td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>26</td>
<td>2</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Worcester, MA</td>
<td>39</td>
<td>3</td>
<td>58.5</td>
<td>3 terms, B, C, D</td>
</tr>
</tbody>
</table>

6 co-advisors
Table 2-4. Goal 1: Enhance the Quality of WPI’s Academic Programs

<table>
<thead>
<tr>
<th>Outcome Objectives</th>
<th>Performance Measures</th>
<th>Responsible Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Fully develop the WPI Plan for all students around an “honors college” metaphor at all levels.</td>
<td>Faculty size; number National Merit Scholars; ranking of undergraduate program; impact of first year; curriculum improvements; graduation rate; practice graduate program statistics; IQP quality; learning outcomes; number large (&gt;35) classes.</td>
<td>Provost’s Office; Admissions Office; Faculty Governance.</td>
</tr>
</tbody>
</table>

| 1.2 Develop aligned incentives for faculty and staff to promote action plans. | Faculty diversity; faculty and staff salaries compared to benchmarks; employee satisfaction; effectiveness of reward system. | Provost; Director of Human Resources; Assistant VP Student Affairs; Multicultural Awareness Staff Member; Faculty Governance. |
Objective 1.1  Fully develop the WPI Plan for all students around an "honors college" metaphor at all levels.

Performance:  Metrics: In terms A01-E02, global projects involve

- 455 students
- 33 full-time faculty advisors
- 7 part-time faculty advisors

On-campus IQPs involved about 250 students.

A typical student-faculty ratio for global projects is 24 students in six to eight teams working with two faculty advisors, both of whom are assigned full-time for the term in which the project is completed. A typical ratio for an on-campus IQP is one to three students working with one or two faculty advisors who mix that advising in with their other on-campus teaching, scholarship, and service duties.

Actions: Preparation for global IQPs is being revised to enhance achievement of the following outcomes: grasp project context, including culture; define achievable goals; work in a team; commit to excellence; structure and write a professional report; draw upon prior research; present results orally; live in a new environment; use language of the site, as appropriate; confront ambiguity; run a professional project meeting. An instrument to assess quality of IQP advising will be tested this summer in London, Costa Rica, and Venice; it will measure achievement of those outcomes that are subject to advisor intervention.
Undergraduate Program Ranking

Metrics: The AAC&U recognition of WPI as a Greater Expectations Leadership Institution is a direct consequence of a visit to campus by AAC&U consultant (and former University of Maryland Dean) Robert Schoenberg. He first learned of WPI's projects and global programs through a presentation by Rick Vaz at a conference of global engineering education. Schoenberg continues to be strongly drawn by WPI's projects; e.g., he has invited Peter Hansen and Paul Davis to a regional conference he has organized on experiential education.

Publications and presentations in past year by IGSD faculty and staff:

- Journal and conference papers, book chapters, etc: 25
- Presentations: 34
- Grant applications: 4

Enhance the value of the IQP and establish it as a major capstone experience.

Actions

- Weekend and day-long retreats for global advisors operate annually. Topics addressed included risk management and the personal, interpersonal, and professional development of students. The approach and programs are under continuous review; the current active learning format has been exceptionally well received by participants. Workshops during the academic year address core academic matters for all project advisors, on- and off-campus; regular topics include written and oral communications.

  Metric: 47 current and prospective global advisors and supporting members of the faculty and staff have attended the May '02 global advisor retreat.

- The Worcester Community Project Center, supported by gifts,
brings the values and intensity of off-campus IQPs to students who can not leave campus while providing WPI a unique and extraordinary powerful way to assist its home community. It is also the focus of advisor mentoring and training for new on-campus IQP advisors.

**Metric:** 14 new on-campus IQP advisors have been mentored through the WCPC in its first five terms of operation (B00, B01-D02). Students completed WCPC IQPs during this period.

- In search of higher quality projects, the former Darmstadt project center was closed and replaced by one in Zurich. A project new center in Zimbabwe was cancelled due to political unrest. A replacement in Namibia, partially supported by gifts, will open in E03.
- The President's IQP Award selection process has been restructured to better identify IQPs exemplifying best practice. The nature of the awards have been recast to recognize high achievement as a goal that many can achieve, replacing the less useful notion of a single "best" IQP.
- Recognizing the role of the IQP as an interdisciplinary capstone experience, the annual summer reading and quality review of all IQPs was revised to incorporate assessment of aspects specifically related to such ABET criteria as understanding of professional and ethical responsibility and appreciation of global and contemporary issues.

**Metric:** 28 new global advisors have been added to the pool of qualified advisors since AY99-00.

**Metric:** Journal papers, conference presentations, and other public notice accorded to the results of IQPs (data under collection).

*Leverage project centers to create test bed for graduate engineering and management programs.*

There is little concrete progress to report but several promising prospects. MQPs have been completed at National Central University, Taiwan, and Institut National Polytechnique de Lorraine, Nancy,
France. These are direct consequences of research relationships. The Taiwan connection should bring graduate students to WPI; three graduate students are already on their way from Nancy. (There is also a long-standing exchange with Chulalongkorn University in Bangkok which brings one well-qualified Thai graduate student to Chemical Engineering or Chemistry and Biochemistry each year. Sporadically, graduate students from King's College London, come to Electrical and Computer Engineering through the agreement that supports the London Project Center.)

IGSD is supporting efforts by Ravindra Datta, David DiBiasio, Stephen Matson, and Gretar Tryggvason in Chemical Engineering and Malcolm Ray in Civil and Environmental Engineering to foster additional such graduate relationships.

Students in the Financial Mathematics M.S. program may be able to complete projects at the Wall Street Project Center; possibilities are being explored.

An alternate strategy is to send our undergraduates out and use the resulting partnerships to attract the highest quality graduate students back to WPI.

**Metric:** 1 productive program in place; 2-4 nascent programs.

**Metric:** 4 graduate students working on-campus as a result of global project Center activity; 0 graduate students working off-campus at project centers.

**Objective 1.2** Develop aligned incentives for faculty and staff to promote action plans.

**Performance:** Review promotion and tenure criteria

IGSD faculty have been active in collaborations that advocate formal teaching evaluation processes, primarily through WPI's relationship with AAC&U. IGSD itself is developing tools for assessing advising that could become part of revised tenure and promotion review processes.

**Metric:** 0 revised criteria in place; 1 process tool (for off-campus
project advising) under development

*Expand recognition programs for outstanding performance*

See the preceding comments about promotion and tenure criteria.

**Objective 1.3**  
*Provide increasing opportunities for student involvement in research.*

**Performance:** The MQP centers in Nancy, France and at Goddard and Johnson Space Flight Centers and Lincoln Labs offer student projects based on cutting-edge technology and research programs. Some of the projects sponsored by SRI through the Silicon Valley Center have similar characteristics.

**Metrics:**

- During AY01-02, 46 students completed global MQPs at Institut National Polytechnique de Lorraine in Nancy, France, at Goddard Space Flight Center, and at SRI in Silicon Valley, all centers of cutting-edge research and technology. In term B02, as many as 18 students will have a similar opportunity at the new Lincoln Labs MQP Center.
- Number of student co-authors of papers, presenters at professional meetings, and participants in research conferences (data not available)
- Number of student authors, presenters, or participants in student research journals and conferences (data not available)

**Objective 1.4**  
*Maintain contemporary teaching laboratories.*

**Performance:** Not applicable.

<table>
<thead>
<tr>
<th>Table 2-5. Goal 2: Further WPI’s Position as a National University</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Objectives</strong></td>
</tr>
<tr>
<td>2.1 Improve the quality and diversity of the student body.</td>
</tr>
</tbody>
</table>
students receiving financial aid.

<table>
<thead>
<tr>
<th>2.2 Support the faculty's efforts in research and scholarship.</th>
<th>Impact of thrust areas on faculty and graduate student recruiting; annual research expenditures; number proposals and awards; number publications; faculty and graduate student support levels; AACSB accreditation status; average course load for faculty; minimum and mean GRE scores; annual number Ph.D. graduates; number full time graduate students; annual research expenditures per faculty member; amount of Indirect Costs recovered.</th>
<th>Associate Provost; Thrust Area Directors; Academic Department Heads; Director, Plant Services.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3 Develop creative partnerships with industry, organizations, and other universities.</td>
<td>Number of partnerships; value added; statistics associated with Silicon Valley center and other new ventures.</td>
<td>Provost Office; Dean, Division of Continuing Studies; VP University Relations.</td>
</tr>
<tr>
<td>2.4 Continue to develop a comprehensive base of programs through aligned resource allocations.</td>
<td>Student participation in humanities and arts programs; status of academic programs; alumni satisfaction with preparation; percentage and average gift value of alumni participation in Annual Fund; endowment per student; payroll per student credit hour delivered.</td>
<td>Provost's Office; Faculty Governance; VP University Relations.</td>
</tr>
<tr>
<td>2.5 Expand opportunities for synchronous and asynchronous networked learning.</td>
<td>Number students involved in distance learning; number courses offered; number companies participating.</td>
<td>Dean, Division of Continuing Studies; Provost's Office; VP Information Technology.</td>
</tr>
<tr>
<td>2.6 Conduct a comprehensive image-building and marketing effort.</td>
<td>Uniformity of publications; name recognition; changes in number of applications; geographic base of applicant pool.</td>
<td>University Relations; Dean, Division of Continuing Studies.</td>
</tr>
</tbody>
</table>
**Objective 2.1**  Improve the quality and diversity of the student body.

**Performance:** Not applicable.

**Objective 2.2**  Support the faculty's efforts in research and scholarship.

**Performance:** Not applicable.

**Objective 2.3**  Develop creative partnerships with industry, organizations, and other universities.

**Performance:** **Metric:** External sponsorship of projects at project centers

MQPs: Industrial, government laboratory, corporate, and university research laboratory sponsors at off-campus MQP centers include: 9 in Silicon Valley, 3 in Limerick, 3 in Copenhagen (through the Engineering College of Denmark), 1 (NASA) in Goddard and Johnson Space Flight Centers (as latter center reopens), 4 in Wall Street, 1 (United Technologies) in Hartford, 1 in Nancy, France.

IQPs: Approximately 50 different governmental organizations (from the UN to local governments), NGOs, and corporations sponsor projects each year at global IQP centers.

*Create comprehensive project centers*

- The Silicon Valley MQP project center was launched in C00 with four funded projects. Eight were completed in C01, Eight in C02.
- The Wall Street MQP Center began operation in B01 with eight students completing three funded MQPs.
- In term A01, the existing Limerick MQP operation was upgraded to a full-scale center and doubled in size to accommodate twelve students completing four projects. However, funding to sustain this level of effort was not obtained.
- In term B02 Wall Street MQP Center operated with 8 students completing four funded MQPs.
During its brief existence, the Center for the Globalization of Technology helped to find sponsored MQPs in Silicon Valley and elsewhere. Overall, this model appears not to have been as successful financially as we had hoped.

The Hong Kong IQP Center re-opened in C02 with twenty students and two resident advisors after a preliminary ISRP with 9 students in C01. The Zurich IQP Center replaced the former Darmstadt operation in C01. Zurich began its first regular term of operation in B01 with sixteen students selected from nearly one hundred applicants.

Off-campus residential Sufficiency programs have expanded as well: Spanish and related topics in Madrid in D01 and D02, German in Darmstadt in E01, Shakespeare and Dickens in London in E01 (regularizing the existing but sporadic E term London Sufficiency program), and interdisciplinary Sufficiencies for the first time in London in B01.

**Develop and implement MOUs with universities near project centers**

**Metric:** 12 MOUs, most of which involve student project activity in at least one component of the interaction, have been executed over the last two years with:

- Faculty Of Mining, Metallurgy and Earth Science of the Rheinisch-Westbalische Technishe Hochschule Aachen, Germany and WPI
- Engineering College of Copenhagen and WPI
- Technische Universiteit Delft and WPI
- Institut National Polytechnique de Lorraine, Nancy, France and WPI
- Fukui University and WPI
- University of Greenwich, UK and WPI
- University of Zimbabwe and WPI
- National Central University, Taiwan and WPI
- National Tsing Hua University and WPI
- University of Costa Rica and WPI
Objective 2.4  
Continue to develop a comprehensive base of programs through aligned resource allocations.

Performance: Increase opportunities in humanities and arts

Although Sufficiencies are not a direct responsibility of IGSD, we have added three off-campus Sufficiency programs (one interdisciplinary in London as well as language-based programs in Madrid and Darmstadt) as well as attempted to regularize the one existing, sporadic offering (discipline-specific in London). Unfortunately, the offering in German has been suspended until a vacant faculty position is filled.

Metric: A total of three terms of global Sufficiencies sites are currently available. They annually involve three advisors and have a total capacity of forty-five students.

Objective 2.5  
Expand opportunities for synchronous and asynchronous networked learning.

Performance: Not applicable.

Objective 2.6  
Conduct a comprehensive image-building and marketing effort.

Performance: Not applicable.

Table 2-6. Goal 3: Establish WPI as a Leader in Global Technological Education

<table>
<thead>
<tr>
<th>Outcome Objectives</th>
<th>Performance Measures</th>
<th>Responsible Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Expand participation by students and faculty in the Global Perspective Program.</td>
<td>Dollar value of scholarship fund; faculty involvement; number projects conducted at global sites; number faculty and students involved with sister institutions.</td>
<td>VP University Relations; Provost's Office; Faculty Governance, Dean, IGSD.</td>
</tr>
<tr>
<td>3.2 Make the transition from multinational sites</td>
<td>Number teams involving remote sites; degree of integration of global</td>
<td>Dean, IGSD.</td>
</tr>
</tbody>
</table>
Objective 3.1  Expand participation by students and faculty in the Global Perspective Program.

Performance:  Metrics: student and advisor participation; increase in advisors and mentoring

- Of a typical graduating class, approximately 50% will have had an overseas project experience, about 70% an experience at a foreign or domestic (including Puerto Rico) project center.
- Among doctoral granting universities, WPI is second in the proportion of its graduates in all majors, technical and otherwise, who have had an overseas experience.
- WPI sends more students of science and engineering abroad than any other American university.
- 28 global faculty advisors have been recruited and trained since AY99-00.

Seek endowment funds to support Global Perspective Program Fund

Metric: Small faculty development grants have supported initiation of ECE MQPs in Denmark, exploration of MG MQPs in London, development of faculty expertise relevant to the Worcester Community Project Center and other on-campus IQPs. However, no significant additional funds have been allocated for this purpose.

Fully leverage global project sites

Metric: No funds have been allocated and nothing of significance has been spent for scholarship or other professional development arising from global advising.

- The IGSD FY01 budget request included professional development funds for global advisors to use with their off-campus advising. However, no additional operating funds have yet been authorized.
- Beginning with AY01-02, global IQP advisors were to receive
a small professional development grant from project fees to assist them in taking full scholarly advantage of their off-campus advising assignment. This program was suspended in response to reductions in IGSD's operating budget totaling about 8%.

Conduct study of undergraduate program components

As documented elsewhere, opportunities for global IQPs, MQPs, and Sufficiencies have been expanded over the past three years.

International Studies is ripe for review and expansion; lack of funding has prevented additional course offerings in this area.

Metric: International Studies majors, minors, and course and project enrollments. (Data being collected)

Similar comments apply to the Technical Communications program.

IGSD faculty continue to collaborate with the Center for Communication Across the Curriculum in using the IQP as a vehicle for teaching report writing. Training in a rhetoric-based approach to teaching writing is now being offered to all global IQP advisors.

Evaluate international studies enhancement

Action has been postponed for lack of funding.

Evaluate potential Center for Global Technology and Culture

In its incarnation as the Center for the Globalization of Technology, this concept appears to have been less productive than envisioned. Involvement with global technology continues to grow through other avenues. Cultural matters remain to be explored.

Objective 3.2

Make the transition from multinational sites to a global system.

Performance:

Pilot project team from multiple sites

The following prior initiatives have not proved particularly
successful:

- Having project teams in Worcester and London communicate via email and BlackBoard.
- Having writing tutors from the Center for Communication Across the Curriculum continue via the Internet their relationships with several London project teams working there during C00.
- Arrangements for virtual teams of students from WPI and the University of Zimbabwe to collaborate during D00 in preparation for on-site work in E00 were cancelled along with the center itself.
- During AY01-02, a "tethered consulting" model was used to provide assistance from WPI's Center for Assistive Technology to all global teams (and to any on-campus teams that can be identified) that are completing projects involving disability issues. The intent was to identify common themes in order to form connections among teams attacking similar problems in various locations during the subsequent academic year. Response to regular solicitations of off-campus advisors has been disappointing.

*Develop plan for global system using themes*

- The previous priority theme involved projects in the general area of support for disabled people and research in rehabilitation engineering. Lack of funding has inhibited significant progress. The current thematic emphasis is sustainable development; the first centers to be involved are Worcester, London, and Boston. Representatives of all three attended this fall's Envisioning Worcester conference. The collaboration has found financial support from the Worcester Community Foundation and the City of Worcester.
- USAID and World Bank haven been approached to build relationships that would eventually support themes in either support for the disabled or sustainable development.

Table 27. Goal 4: Improve WPI's Campus Culture and Community Presence
<table>
<thead>
<tr>
<th>Outcome Objectives</th>
<th>Performance Measures</th>
<th>Responsible Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Construct and renovate facilities to accommodate social and academic activities and solve the parking problem.</td>
<td>Funds available; adherence to construction timetable.</td>
<td>VP University Relations; VP Student Affairs; Assistant VP Student Affairs; VP Administration; Director, Plant Services.</td>
</tr>
<tr>
<td>4.2 Improve ethnic and gender diversity in our community.</td>
<td>Quality of life on campus; role and value of support groups.</td>
<td>VP Student Affairs; Assistant VP Student Affairs; Multicultural Awareness Staff Member.</td>
</tr>
<tr>
<td>4.3 Provide a safe environment for our community that fosters learning and development with appropriate alternatives to alcohol and drug abuse.</td>
<td>Safety statistics; number violations of alcohol and drug policies; results of CORE Alcohol and Other Drug National Survey; results from Higher Education Research Institute National Survey.</td>
<td>Director Public Safety; Campus Safety Officer; Assistant VP Student Affairs; Healthy Alternatives Office.</td>
</tr>
<tr>
<td>4.4 Expand efforts to meet the needs of adult learners.</td>
<td>Net revenue; numbers of faculty and students involved.</td>
<td>Dean, Division of Continuing Studies; Director, ADLN; Academic Department Heads.</td>
</tr>
<tr>
<td>4.5 Enhance the Career Development Center.</td>
<td>Number students and employers involved; placement rates; number of alumni participating.</td>
<td>Director, Career Development Center; VP Student Affairs; VP University Relations.</td>
</tr>
<tr>
<td>4.6 Maintain facilities and surrounding peripheral properties according to master plan.</td>
<td>Progress against maintenance plan; deferred maintenance balance; state of grounds and facilities; neighborhood relations.</td>
<td>Director, Physical Plant.</td>
</tr>
</tbody>
</table>
### Objective 4.1
*Construct and renovate facilities to accommodate social and academic activities and solve the parking problem.*

**Performance:** Not applicable.

### Objective 4.2
*Improve ethnic and gender diversity in our community.*

**Performance:** Not applicable.

### Objective 4.3
*Provide a safe environment for our community that fosters learning and development with appropriate alternatives to alcohol and drug abuse.*

**Performance:** Not applicable.

### Objective 4.4
*Expand efforts to meet the needs of adult learners.*

**Performance:** Not applicable.

### Objective 4.5
*Enhance the Career Development Center.*

**Performance:** Not applicable.

### Objective 4.6
*Maintain facilities and surrounding peripheral properties according to master plan.*

**Performance:** Not applicable.

### Objective 4.7
*Enhance support for K-12 system and the local community.*

**Performance:** Not applicable.
Performance: *Worcester Community Project Center*

In its inaugural year the WCPC began partnerships with four municipal organizations—the City of Worcester Marketing Department (Susan Black); the Worcester Business Development Corporation (David Forsberg); the Worcester Public Schools Engineering Pipeline Collaborative (Dennis Ferrante) and the Worcester InfoTech Project (Tom Wharton). These partnerships resulted in five IQPs.

Many of these partnerships continued in the 2001-02 academic year with an additional five partners being added to accommodate the three-fold increase in project activity in the WCPC and Worcester's diverse community. New partners include: The Executive Office of Economic Development (Philip Niddrie); Department of Public Works (Robert Moylan); Department of Parks, Recreation and Cemetery (Michael O'Brien), Worcester Regional Research Bureau (Roberta Schaefer); Santiago's Market (Ediberto Santiago). These new relationships resulted in nine IQPs.

**K-12 Education 01/02:**

In 2001/02 the WCPC dedicated over 1/3 of its project resources to K-12 education or into five of the Center's fourteen projects.

1. Analysis of the Massachusetts Comprehensive Assessment Test Data, sponsored by the Worcester Public Schools, Patricia Mostue, liaison.

2. Attracting Pre-College Students to Engineering: A focus on women and minorities, sponsored by the Worcester Public Schools, Dennis Ferrante, Tony Camoreyt, and Bob Krikorian liaisons.

3. Developing a Grade 12 Curriculum for Engineering Students, sponsored by the Worcester Public Schools, Dennis Ferrante, Tony Camoreyt, and Bob Krikorian liaisons.

4. Influences on the Recruiting and Retention of Middle School Students into Technology/Engineering Programs, sponsored by the Worcester Public Schools, Dennis Ferrante and Donald Kelly liaisons.
5. Designing an Information Technology Program, sponsored by the Worcester Public Schools, Dennis Ferrante and Mary Harrington liaisons.

**Metrics:** 5 community-oriented IQPs completed through the WCPC, several specifically focused on education. Additional IQPs have been completed over the past five years either sponsored by or directly serving organizations in the city or county of Worcester.

*Develop program for primary and secondary students and teachers*

IGSD provides the home for a new course, ID 3100, Teaching Methods in Mathematics and Science, enrolling 17 students in D02 (taught by John Goulet and developed jointly by him and Lance Schachterle). About half of the teacher preparation students use the IQP for their practice teaching experience. (The others simply complete the practicum as an additional project since they want their IQP to be global.)

**Metric:** 17 WPI students enrolled in WPI's teacher preparation course.

<table>
<thead>
<tr>
<th>Table 28. Goal 5: Expand WPI's Educational Resources</th>
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<tbody>
<tr>
<td><strong>Outcome Objectives</strong></td>
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<tr>
<td>------------------------</td>
</tr>
<tr>
<td>5.1 Improve library resources, services, and facilities</td>
</tr>
<tr>
<td>5.2 Establish state-of-the-art computing resources and network performance</td>
</tr>
<tr>
<td>5.3 Create and maintain sufficient electronic classrooms to support</td>
</tr>
</tbody>
</table>
on- and off-campus computer usage rates. Director, CEDTA.

Objective 5.1 Improve library resources, services, and facilities.
Performance: Not applicable.

Objective 5.2 Establish state-of-the-art computing resources and network performance.
Performance: Not applicable.

Objective 5.3 Create and maintain sufficient electronic classrooms to support on- and off-campus programs.
Performance: Maintain notebook inventory for off-campus use

The supply of laptops for off-campus project students has been augmented by cell phones for emergency contact with students at overseas sites. The cost of these phones is incorporated into housing charges rather than the operating budget.

Metric: 189 students using laptops, 310 students using cell phones at off-campus project centers during E02 - D03.