Goals Today

- Describe QEP process and straw plan
- Set the stage for specific, detailed, post-meeting feedback on:
  - Activities, resources & organizational structure to execute; long-term continuity
  - Language (but not structure) of learning outcomes; assessment plan
- What is firm and will not change:
  - the need addressed; the chosen domain and pedagogy; the structure of learning outcomes
Advisory Committee Process and Charge

- We will have three meetings:
  - Today – hear plan as currently stands
  - Sept 30 – feedback meetings
  - November – close the loop
- We ask that you both represent yourself and serve as a proxy for others
- We are available if you would like us attend meetings you set up with others
- We will collect feedback via Piazza on t-square, email, Sep. 30 meeting, other useful fora
We seek your constructive input

- For each element that relates to you:
  - Would I/my peers engage? Why or why not?
  - How can it be made more attractive/valuable to us?
- My “definitely keep” and “could do without” list is:.....
- To ensure continuity beyond the 5 years, I recommend:........
- I would join a working group to further develop & implement:.....
- Other reactions:.....
Background
Georgia Tech goes through accreditation ("reaffirmation") via SACSCOC every 10 years.

Centerpiece is a Quality Enhancement Plan (QEP) that "enhances the quality of student learning outcomes and the environment of learning". It should:

- have a wide-ranging effect on students on campus
- originate from a process that involves many campus constituencies
- be directly related to the strategic plan of the institution

Last time: undergrad research and international plan.
Big Picture

- Tightly connected to strategic plan
- Long-term, transformative

Identify need
- Develop & vet concept
- Site visit Mar '15
- Develop plan due Jan '15
- Start Jan '16
- Runs '16-'20
- Assess
- Refine due Jan '15

COVID-19
October 2013 – concept papers solicited
December 2013 – five were received
January 2014 – presentations by all teams
February 2014 – two concept papers selected
  - Jackets for a Sustainable Future (Beril Toktay)
  - Service Learning and Community Engagement (Ellen Zegura)
March 2014 – merged concept paper presented and given go-ahead
QEP Development Timeline II

- April 7, 2014 – presentation and work session with GT Advisory Board
- May and June 2014 – many meetings (p. 3) with Associate Deans for Undergrad, Vice Provosts and their staffs, leadership of related programs, student groups, faculty
- July and August 2014 – first draft written
- August 2014 – three advisory committees formed (faculty, students, administration)
Overview for Today

- Identification of the Topic (Section II)
- Learning Outcomes and QEP Structure (Section III)
- Actions to be Implemented (Section V)
- Organizational Structure (Section VIII)
- Resources (Section IX)

- Not much on Lit Review, Timeline or Assessment
Identification of the Topic
Vision: We will be leaders in influencing major technological, social, and policy decisions that address critical global challenges.

Mission: We will be leaders in improving the human condition in Georgia, the United States, and around the globe.
This QEP aims to equip our students with the knowledge and capabilities to effectively address sustainability challenges and inter-related community-level societal needs in their professions and their civic lives.
Two-fold motivation

- Nature of critical global challenges
- Needs expressed by our students
Nature of Critical Global Challenges

Problems that affect the lives and well-being of countless people:

- Energy and the Environment
- Water Resources
- Food Security
- Population Growth
- Global Health
- International Security

Sustainability Challenges & Inter-related Pressing Societal Needs

http://sites.nationalacademies.org/International/international_052200
Please rate how well Georgia Tech prepared you in ...

- 1- not prepared
- 2- somewhat prepared
- 3- prepared
- 4- well prepared
- 5 - very well prepared

“well-prepared”

2012 Baccalaureate Alumni Survey
I feel well-prepared to use techniques, skills, & tools needed for the practice of my discipline: 76.8%
I feel well-prepared to seek out new information needed for the practice of my discipline: 75.5%
I feel well-prepared to identify, formulate, solve problems in my discipline: 87.6%
I feel well-prepared to understand the social and cultural impact of my professional practice: 44.30%
I feel well-prepared to understand the environmental impact of my professional practice: 40.40%
I feel well-prepared to understand and apply knowledge of contemporary social and political issues: 26.7%
The Need: Stronger Inter-skill Preparation

- Interskill #3
- Interskill #2
- Interskill #1
- Discipl #3
- Discipl #2
- Discipl #1
QEP vision: Close the Gap

- Let’s educate students who are able to effectively address complex, real-world challenges.
- Let’s educate students who are confident in navigating challenging trade-offs and engaging in multi-stakeholder, multi-system settings.
- Let’s educate students who are capable of being able to integrate societal considerations into their professional and civic lives.
Domain: Sustainability, with emphasis on community-level considerations
  - Sustainability = “transforming our ways of living to maximize the chances that environmental and social conditions will indefinitely support human security, wellbeing, and health” (McMichael et al., Science 2003)

Pedagogy: Community engagement and service learning building on/from disciplinary excellence
Learning Outcomes and QEP Structure
QEP Structure Principles

- Provide opportunities early and often
- Appeal to many majors
- Build on and from disciplinary expertise
- Provide flexibility
- Build campus culture and student identification
- Emphasize community engagement and impact
- Institutionalize
Structural Overview: Early Exposure Base + Three Tiers

- Early Exposure and Awareness
- Foundation
- Perspective
- Creativity

Student Progress

Number Students
Early Exposure and Awareness

- Builds interest and awareness
- Relatively lightweight; no learning outcomes
- Target 40% of undergraduates
- Examples:
  - GT 1000
  - Project One reading
  - Clubs in sustainability and CE
Develops intellectual and methodological foundations for the QEP theme
Achieved through sophomore courses
Target 25% of undergraduates
Learning outcomes for sustainability and for community engagement expressed separately since they differ in content and methods (though note similar structure to LO language)
Learning outcomes are at *knowledge* and *comprehension* levels of Bloom’s taxonomy of cognitive skills
Foundation Level:
Learning Outcomes

- **Sustainability**
  - 1a. Students will be able to identify the fundamental linkages between ecological, social and economic systems.
  - 2a. Students will be able to describe how sustainability relates to their professional and personal lives and how their actions impact issues of sustainability.
  - 3a. Students will display the ability to think across scales (temporal, geographic, from individual to community).

- **Community Engagement**
  - 1b. Students will be able to identify the fundamental linkages between social, political and ethical systems.
  - 2b. Students will be able to describe how theories of social and ethical engagement relate to their professional and civic lives and how their actions impact communities.
  - 3b. Students will display the ability to think across scales (temporal, geographic, from individual to community).
Perspective Level

- Builds on foundations to incorporate critical thinking and evaluation of tradeoffs inherent in sustainability challenges and inter-related societal needs
- Achieved through appropriate QEP themed courses and co-curricular activities such as co-ops and internships
- Target 15% of undergrads
- Learning outcomes are at the application and analysis levels of Bloom’s taxonomy
4. Students will be able to apply the tools of multi-stakeholder analysis.
5. Students will be able to make informed evaluations of costs, benefits, and trade-offs associated with sustainability and community-based challenges.
Creativity Level

- Build on knowledge and analysis capabilities to equip students to *effectively address* sustainability challenges in community contexts
- Requires practice with creating and communicating solutions
- Achieved in multi-course “pathways” and capstone courses
- Target 5% of undergraduates
- Learning outcomes are at the *synthesis* and *evaluation* levels of Bloom’s taxonomy
6. Students will be able to create and evaluate solutions to sustainability challenges and inter-related community-level pressing societal needs

7. Students will be able to communicate effectively with audiences beyond academia.
Actions to be Implemented
Foundations Level

- Develop sophomore level Foundations of Sustainability course
- Develop sophomore level Foundations of Service course
- Support infusion into core curriculum (e.g., Bio1, English1, CS1, ...)
- Scale – 25% is 900 students/year, requires 2x100 student sections/semester of each course
- Student interest – counts for core requirements?
Support “refresh” of existing courses to use QEP theme as content
Support development of new courses (e.g., through faculty workshops)
Develop additional co-ops in the QEP theme
Develop additional internships in the QEP theme
Scale: 15% is 550 students/year, 11 sections of 50 students each
Creativity Level

- Identify “pathways” through curriculum
- Support development of new courses needed to create pathways
- Support development of new capstone courses (e.g., through faculty workshops)
- Develop and support interdisciplinary certificate(s) at graduate level
- Scale: 5% is 180 students/year; 4 sections of 45 students each
Extra and Co-curricular Activities

In addition to co-ops and internships...
- Create a Living Learning Community
- Create Sustainable Communities Student Leadership Program
- Support new student clubs and activities
## Overview of Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Early Exposure</th>
<th>Course Development</th>
<th>Pathways/Programs</th>
<th>Co- &amp; extra-curricular</th>
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</thead>
<tbody>
<tr>
<td>2016-2017</td>
<td>Baseline data collection, establishment of pilots, partnerships, new course development, initial course infusion</td>
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<td></td>
<td><strong>Program assessment and re-balancing of efforts/resources as needed</strong></td>
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<td>2018-2019</td>
<td>Expand and solidify programs in all focus areas</td>
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<tr>
<td></td>
<td><strong>Program assessment &amp; determination of final stage of institutionalization effort</strong></td>
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<tr>
<td>2020</td>
<td>Institutionalize across all focus areas</td>
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</tbody>
</table>
25% of undergraduates will avail themselves of Foundation opportunities;
15% will take part in Perspective opportunities; and
5% will complete Creativity opportunities.
40% of undergraduates to experience a QEP-theme activity such an early exposure activity or participation in a sustainability or community engagement club that builds awareness and complements curricular opportunities.
Goals: Learning Environment

- The number of internships and co-op opportunities in the QEP theme will double.
- Three formal QEP pathways will be implemented.
- A Living Learning Community on sustainable communities will be created.
- The number of capstone courses in QEP areas will increase three-fold.
- IT & staff to support capstone QEP projects will be put in place.
Goals: Long-term viability

- Continuity of key positions and assets will be ensured by the institute by:
  - inclusion in administrative structure
  - internal budget allocation
  - external fundraising
Implementation
Supporting Infrastructure

- A system to develop community and industry relationships, and to curate and infuse multi-disciplinary, multi-stakeholder projects into courses;
- A system to flag sustainability and service learning courses in banner, sustainability co-ops and internships in relevant databases & to create electronic portfolios that track S-pathways;
- Workshops and resource repository for faculty interested in infusing service learning & sustainability engagement projects into their courses;
- An educated base of academic advisors, career services personnel who can guide students appropriately in pathway selection and expanded set of career opportunities;
- An effective communications plan
Organizational Elements

QEP Steering Committee
QEP Advisory Committee
QEP Co-Directors (working with QEP Champions)
QEP Associate Director
QEP Community Partnership Manager
QEP Industrial Partnership Manager
QEP IT Infrastructure
QEP Communications
QEP Program Manager
QEP Student Assistants/Liaison

In coordination with:
- CETL, Academic Transition, Academic Enrichment, OIE, C2D2, Corporate Relations, etc.
Resource Categories

- Course development support (workshops, travel, faculty course development funds, online module/course development costs)
- Seed funds/funds for student-led initiatives/campus events supporting QEP
- IT infrastructure development (for S-Pathways and project clearing house)
- Communication (for portion beyond what Institute Communications can support) and dissemination costs
- Staff salaries (see Organizational Elements above)
- Survey and assessment-related “material and supply” costs
- Partial summer support or course buy-out for QEP leadership team
The Student Experience Post-QEP
Arc 1: Science Major

- Freshman biology bee project
- Foundations of Sustainability course (Year 2)
- Earth Processes; Environment, Energy and Society (Year 3)
- Senior research thesis on arctic climate modeling (Year 4)
- Completes Research Pathway
- Grad school in climate science
Arc 2: Computer Science Major

- Post high school gap year at Thinking Beyond Borders
- Foundations of Service course (Year 2)
- Study abroad with SL (Year 3)
- Senior capstone Computing for Good project on Westside Power Grid Control (Year 4)
- Completes Community Engagement Pathway
- Position at Opower in consumer behavior modeling
Arc 3: Engineering Major

- Accepted into Living Learning Community
- Foundations of Service course to satisfy Engineering Ethics
- Foundations of Sustainability
- Completes Innovating for Sustainability pathway
- Startup on waste-to-energy technology
Arc 4: Ivan Allen Major

- Honors Program Student
- Foundations of Service as part of Honors Program
- Summer internship on Data Science for Social Good
- Ugrad thesis on water use policy
- Sustainability officer for City of Atlanta
Arc 5: Architecture Major

- Grand Challenges student
- Carries forward project on public transportation
- Zero-energy design studio
- Independent study in senior year
- Joins Peace Corps
Arc 6: Business Administration Major

- Foundations of Service course (Year 2)
- Business Strategies for Sustainability (Year 3)
- Summer internship at UPS
- Sustainable Business Consulting project (Year 4)
- Position at CPG company in supply chain mgmt
Next Steps

- You are on a T-square QEP site – look under Projects (has these docs & piazza functionality that we will seed for feedback)
- Circulate documents to those you want to seek input from; we are happy to engage
- Provide synthesized input (your own/others) before October 10 via Piazza, e-mail, at Sep 30 meeting, phone, etc.
- Feed us “Catchy” titles for QEP!!
THANK YOU!