Binghamton University-SUNY, Binghamton, NY

Carnegie classification: RU/H: Research Universities (high research activity)
Undergraduate enrollment
- Head count: 13,412 undergraduates (and 3,283 graduate students)
- FTE: ~15,000
- % Residential: 60% of undergraduates live on campus
- % Commuter: commuters are mainly students away from home living off campus
- Degrees offered: BA, BS, MA, MS, MBA, MPA, MAT, PhD, EdD
- Institutional structure: five schools (Arts & Sciences, Engineering, Management, Education, Nursing, Public Affairs, adding Pharmacy)
- Undergraduate profile: full-time four year, more selective, first-year retention 90%, 6-yr graduation rate 80%

Following the header, please include very brief summaries of:

Expectations for what your team hopes to accomplish while at the Institute
Three tasks are outlined below that would advance Binghamton University’s implementation of its new STEM Freshman Research Immersion (FRI) program, in which substantial numbers of freshmen will take courses providing them with real research experience. 1) refine Research Methods (freshman fall) course to improve quantitative reasoning of freshmen and demonstration of that via students’ team wiki management and team project poster session at the end of the course. 2) Refine Research Stream courses (freshman spring and sophomore fall) to improve real research experience of freshmen-sophomores with demonstration via the students’ research portfolio and team research poster session at the end of the two semester sequence. 3) Develop a parallel Summer Research Immersion (SRI) program that combines the Research Methods and Research Streams courses into an intensive (full-time) summer program

A few words to describe your institution’s present work with project-based learning initiatives, programs, etc.
This year Binghamton via the Provost’s Office implemented a university-wide STEM Freshman Research Immersion (FRI) program modeled after the FRI at the University of Texas-Austin (UTA). Our team represents four research streams being developed, each of which will work with 60 students per year: Neuroscience, Smart Energy (Chemistry-Physics-Materials Science) Image-&-Acoustic-Signals-Analysis (Computer Science & Electrical Engineering) and Biogeochemistry.

Aspects of curricular change, assessment, evaluation, etc. with which you would like assistance
We emphasize teamwork and collaboration with our undergraduates. Specifically, we are looking for more ways to develop students’ teamwork skills earlier and better. Many of our students say they had poor experiences with academic teams in high school and so are resistant to teamwork.

What you might like to discuss with other institutional teams
In fostering student teamwork, discussion of what should be covered in a first semester research methods course (and how), as well as how to assess core concepts and core skills across different research/project-based courses.

Areas of expertise that your team could share with other Institute teams (e.g., faculty development programs, process for adoption of institution-wide learning outcomes, assessment strategies, etc.)
Faculty development for teaching a research course with 25-30 students, assessment of such courses, implementation of freshman research program (Binghamton is part of a multi-FRI consortium).
**Name and location of institution:** Bridgewater State University, Bridgewater, MA  
**Carnegie classification:** Master’s/Large institution

**Undergraduate enrollment**
- **Head count:** 9,615 undergraduate (11,267 total)  
- **FTE:** 8,411  
- **% Residential:** 39%  
- **% Commuter:** 61%  
- **Degrees offered:** Bachelor of Science, Bachelor of Arts, Master of Arts and Master of Science, Master of Education in Teaching, Master of Business Administration, Master of Science in Accountancy, Master of Public Administration and Master of Social Work. In addition, Bridgewater State University prepares educators for postbaccalaureate and postmaster’s licensure.
- **Institutional structure:** Louis M. Ricciardi College of Business, College of Education and Allied Studies, College of Humanities and Social Sciences, Bartlett College of Science and Mathematics, College of Graduate Studies, School of Social Work.

**Expectations for what your team hopes to accomplish while at the Institute.** The BSU team will collaborate on:

1. Integrating PBL in a two-course sequence taken by many STEM majors: organic chemistry and physical chemistry. The PBL Institute will serve as the catalyst for the development of a grant proposal to the NSF IUSE program (Improving Undergraduate STEM Education) that will engage a community of students and educators at BSU, 2- and 4-year institutions, and regional high schools. We plan to study how exposure to PBL in introductory chemistry courses will impact student engagement in established undergraduate research programs, enhance the success of community college students in pursuing STEM careers at baccalaureate institutions, and serve as a catalyst to establish undergraduate research at the department or institutional level at a 4-year college that does not currently have such programs.

2. Discuss the development of interdisciplinary courses that will apply PBL to study real world social and/or environmental injustice problems, and to cultivate quantitative literacy in this context.

3. Collaborate on strategies to integrate PBL into a variety of courses in mathematics and computer science.

**A few words to describe your institution’s present work with project-based learning initiatives, programs, etc.**

Academic and Student Affairs divisions have been discussing the design, support and assessment of high impact practices, and how to maximize meaningful engagement of all BSU students. Engaged learning at BSU is best reflected through our campus-wide undergraduate scholarship program, and support through the Adrian Tinsley Program for Undergraduate Research, the Honors Center, and the Office of Teaching and Learning.

**Aspects of curricular change, assessment, evaluation, etc. with which you would like assistance.**
- Identify PBL metrics and develop a student learning assessment plan;  
- Implementing PBL in upper-level mathematics and addressing core writing requirements in the major;  
- Develop a time-line and action plan appropriate to needs, resources, and faculty time.

**What you might like to discuss with other institutional teams.**
- Identifying experts on PBL curricular projects and develop a network for consultation on NSF grants;  
- Develop projects with interdisciplinary connections as related to social and environmental justice;  
- Identify PBL metrics and develop a student learning assessment plan;  
- Providing professional development support to educators at 2- and 4-year colleges and high schools;  
- PBL in introductory, intermediate and upper-level math courses, and programming/computer algebra.

**Areas of expertise that your team could share with other Institute teams.** The BSU team brings experience as faculty, administrators, program directors, and advisory board members. All team members have been engaged in PBL through classroom and laboratory courses, mentoring undergraduate research, as well as interdisciplinary engagement. We bring expertise from our campus discussions on the design, support and assessment of high impact practices, and how to maximize meaningful engagement of all students.
**Boston University, Boston, MA**  
Carnegie classification: RU/VH (very high intensity research activity)  
Undergraduate enrollment:  
- Head count: 15,803 students.  
- % Residential: 90+%  
- Degrees offered: BA, BS, Masters and PhDs  
- Institutional structure (e.g., one college or several schools, professional programs, etc.):  

10 schools and colleges on the undergraduate campus, including schools of health sciences, engineering, fine arts and business, and graduate schools of medicine, dental medicine and public health on the medical campus.  

13:1 student-to-faculty ratio. 4 years of guaranteed housing  
27 students per class, on average. 500+ student organizations.  

- Anything else people should know about your institution: One of the largest U.S. urban private teaching universities. Member of Association of American Colleges and Universities (AAU). Ranked #42 among US universities (US News & World Report. Ranked #37 among global universities (US News & World Report). 94% of BU students graduate within 4 years.

Following the header, please include **very brief summaries** of:  

- *Expectations for what your team hopes to accomplish while at the Institute:* To develop an assessment plan and assessment tool to evaluate the success of the project-based learning approach in both our semester-long course with Boston University undergraduate students and in a summer institute, which will draw on students from outside of Boston University. This assessment tool will serve as a model for our program’s broader strategy of project based and engaged learning assessment.

*A few words to describe your institution’s present work with project-based learning initiatives, programs, etc.* The state of project-based and engaged learning is actively evolving on Boston University’s campus: from ad hoc student initiated volunteer experiences, to institution organized service learning programs and required semester long credit-bearing practica.

*Aspects of curricular change, assessment, evaluation, etc. with which you would like assistance:* Assessment and evaluation of project based learning. Ultimately, curricular integration of project based learning outcomes into broader program learning outcomes

*What you might like to discuss with other institutional teams:* Breadth of project-based learning, particularly successful cross-disciplinary initiatives. Successful evidence-based assessment tools for project-based learning.

*Areas of expertise that your team could share with other Institute teams (e.g., faculty development programs, process for adoption of institution-wide learning outcomes, assessment strategies, etc.)* Integration of student “Learning-Centered Schedule” within our senior year practicum experience. Success with broad based liberal arts approach to health science education in the context of global health.
Creighton University, Omaha Nebraska
Comprehensive Master’s University
Total Enrollment: 8,236 (4,065 undergraduate and 4,171 graduate)
60.1% residential and 39.9% commuters (undergraduate)
Institutional Structure: College of Nursing, Arts and Sciences, Business, and Professional Studies; Schools of Law, Dentistry, Medicine, Pharmacy and Health Professions, and the Graduate School

Expectations for what your team hopes to accomplish while at the Institute
1. Development of new core classes in the hands-on natural and social sciences categories using PBL pedagogy.
2. To come back with a plan for faculty development around PBL at Creighton.
3. To build new collaborative, project-based courses that blur department lines, particularly in the sciences.

A few words to describe your institution’s present work with project-based learning initiatives, programs, etc.
Creighton has experimented with project-based learning in small pockets on campus. In Arts and Sciences we have:
1. Developed a new PBL-based core course for humanities majors in mathematics
2. Built the Modeling the Physical World course, a team-taught course in first-year math and physics for math and physical science majors that uses PBL pedagogy.
3. Piloted (and conducted physics education research) on a project-based version of upper division quantum mechanics.
4. Built courses in the digital humanities using PBL pedagogy.

Aspects of curricular change, assessment, evaluation, etc. with which you would like assistance:
1. How to overcome student resistance to non-standard (i.e. not lecture-based) teaching practices.
2. Assessment of learning objectives using PBL artifacts as opposed to more traditional assessment methods.
3. How can project-based learning be done in large courses (> 40 students)
4. Faculty development to encourage wider adoption of PBL.

What you might like to discuss with other institutional teams
We would particularly like to learn about successful implementations of PBL in non-standard courses at other institutions (particularly in team-taught or in large courses).

Areas of expertise that your team could share with other Institute teams
Creighton University just finished a three-year process of core revision, in which a university common core was built by first adopting a common set of learning objectives. Part of the development of this new core has been extensive work on assessment.
About Effat University – Effat University was founded as Effat College in 1999 by HRH Queen Effat Al Thunayan Al Saud (God rest her soul) and achieved the university status in 2009 – becoming the first private non-profit female university in Saudi Arabia. Seen as the founding mother of education in KSA, Queen Effat’s legacy of excellence and passion for education lives on in Effat today. The university is proud to be one of the most forward-looking universities for women in the Middle East. Effat University’s core values stem from the first word of the Quran IQRA, “Read.” These values include Research and Lifelong Learning, Ethical Values, Responsible Leadership, and Communication and Outreach to Others. Currently, Effat University has four colleges: College of Business, College of Architecture and Design, College of Engineering, and College of Science and Humanities.

Expectations - At the end of the summer institute, the team expects to be actively engaged in all project aspects. Team members anticipate to build a standard project-based teaching model to be used by all colleges / departments on campus. The learning objectives are listed as per the following:

1. Understand the project based learning (PBL) methodology, core strategies and application through an interdisciplinary approach.
2. Apply PBL methodology to the courses we teach while ensuring that the institutional core values are fully integrated within the methodology.
3. Identify successes and challenges encountered by faculty members while implementing PBL.
4. Update course syllabi and course activities.
5. Learn effective assessment strategies.
6. Introduce PBL methodology, application and assessment strategies to our colleagues through training and mentorship.
7. Evaluate and test the methods, application and assessment strategies used.

Current project-based learning initiatives & areas of expertise to be shared – Ambassador’s programs

The Effat Ambassadors Program is a unique program that equips students with skills, experiences, and attitudes necessary for their holistic development. It is delivered through a variety of co-curricular and extra-curricular workshops, seminars and activities based on project-based learning approach.

Assistance - Aspects of curricular integration, assessment, evaluation, etc.

Assistance is needed in revealing strategies and action plans to successfully integrate project-based learning in the curricula. Tools on how to motivate students to be actively involved in a project activity are also looked-for. Furthermore, the team intends to realize how to overcome challenges related to planning, designing, developing, evaluating, testing interdisciplinary and “out of the box” projects.

Discussion with other institutional teams

Team members are interested to exchange with other institutional teams previous successful and failing experiences of implementing PBL. They also would like to pinpoint the important role of technology as an enabler source in project education.
Emory & Henry College
Emory, Virginia
Carnegie Classification: Baccalaureate Arts & Sciences
Undergraduate enrollment
- Head count: 1,012
- FTE: 1004.2
- % Residential: 80%
- % Commuter: 20%
Degrees offered: BA, BS, MA.COL, MA.Ed, M.Ed, DPT
Institutional Structure: liberal arts college with separate health sciences campus

Team goals for the Institute
- develop clear plan for sustainable college-wide PBL initiative
- learn more about “branding” PBL for recruitment, PR, and development
- gather ideas for integration of PBL into the core curriculum

Institution’s present work with PBL
- pervasive undergraduate research/creative activity projects
- strong service learning/civic engagement mission and infrastructure
- new "learning portfolio" cohort Fall 2015
- launch of “Project Ampersand,” college-wide initiative to enhance and promote PBL (some aspect of which will be in our 2017 QEP)
- $100,000 Mellon grant for 2015 based on interdisciplinary PBL programming

Curricular change, assessment, evaluation, etc. with which we seek assistance
- implementing PBL more intentionally into the core curriculum, including college-wide assessment
- building support for student advisement (connecting passions with projects, managing projects, etc.)
- developing/managing project resources (for faculty and for students)

Would like to discuss with other teams
- capturing PBL in e-portfolios
- marketing/branding PBL in a distinctive way for our institution
- achieving "buy in" from those faculty who do not embrace and/or understand PBL
- balancing faculty workload with increasing project mentoring
- developing project-based study abroad

Our team’s areas of expertise:
- faculty mentoring
- civic engagement
- undergraduate research
- experiential learning
- rich co-curricular offerings
Indiana University-Purdue University Indianapolis (IUPUI), Indianapolis, Indiana
Carnegie classification: RU/H: Research Universities (high research activity)
Undergraduate enrollment
Head count: 20,798
FTE: 16,065
% Residential: ca. 10%
% Commuter: ca. 90% (of course, we have a large number of students who do not live at home or in university housing but are in apartments directly adjacent to campus)
Degrees offered: AS, BA, BAED, BFA, BGS, BS, BSB, BSBME, BSCE, BSCJ, BSED, BSEE, BSHMS, BSK, BSPA, BSPH, MSME, BSMT, BSN, BSW
Institutional structure: 17 schools and 2 colleges
Anything else people should know about your institution: Our Principles of Undergraduate Learning have been recognized as helping to shape the LEAP Essential Learning Outcomes articulated by AAC&U.

We think that this Institute will provide an optimal forum for developing a campus action plan and time line for helping faculty design and implement integrative project-based learning experiences for specifically-targeted general education courses in the first and second year as well as in capstone courses that are aligned with the theme of entrepreneurship (including social entrepreneurship). We also see the institute as a way of integrating current service learning and internship experiences with faculty-guided project work.

IUPUI launched its RISE (Research/International/Service Learning/Experiential Learning) initiative in 2009 as a means of encouraging all undergraduates to engage in at least 2 transcripted high impact practices. The RISE program builds on IUPUI’s rich history of excellence in supporting these various forms of experiential learning that enable undergraduates to integrate and apply their knowledge, practice new skills, and contribute new ideas in authentic contexts beyond the classroom through research, service learning, international experiences and internships.

Although many of our professional schools offer opportunities for undergraduates to engage in project-based learning, often within the context of an internship, practicum or field-based experience, we believe that there are fewer project-based assignments used in the liberal arts and sciences because of the traditional focus on preparing students for graduate study. As IUPUI is an urban campus, there is tremendous potential for expanding our capacity in this realm particularly around projects that support the bicentennial strategic planning goal of increasing students’ entrepreneurial capacity. Faculty from the liberal arts and sciences will need to first understand what this means within the context of their discipline and then be provided support and guidance in the process of assignment design. We view this institute as an ideal forum for beginning to cultivate faculty awareness and buy-in to engage in these forms of practice, and we intend that faculty participants will emerge as campus leaders in this area as a result of conversations that take place at the institute.

The IUPUI team has been intentionally designed to include several newer faculty who are perceived to be IUPUI’s “up and coming leaders” and who will ultimately serve as champions for project-based learning in their schools. One faculty member recently was engaged in a campus retreat aimed at exploring ways that all undergraduate students at IUPUI experience coursework related to design, entrepreneurship, or social entrepreneurship. Another recently joined the IUPUI faculty after serving at another university, where he was engaged for a year as a President’s Fellow on Immersive Learning. Two additional faculty members represent very large departments in the Indiana University School of Liberal Arts and the Purdue School of Science, two schools that are specifically targeted for expansion of project-based learning, particularly at the capstone level, and schools where a great deal of time has been spent initiating reforms related to the new campus wide general education program. Finally, the fifth faculty member has a number of years experience revising and implementing general education curriculum for the campus.

IUPUI has been recognized nationally for best practices in areas such as the first year experience, themed learning communities, service learning, the integration of high-impact practices into the undergraduate curriculum through our RISE initiative, and the use of electronic portfolios to support integrated academic and career planning as well as direct assessment of student learning.
Lasell College (Newton, MA)

Carnegie classification: Baccalaureate Colleges – Diverse Fields
Undergraduate enrollment (degree-seeking students): headcount: 1727; FTE: 1715.91; residential: 79%; commuter: 21%
Degrees offered: B.A., B.S., M.S., M.Ed., P.M.B.A.
Institutional structure: one college with 13 academic departments

Anything else people should know about your institution. We have just finished our first year of implementing an integrative, interdisciplinary core curriculum built around a set of college-wide student learning outcomes. The process continues to be faculty-led, and all of our Institute team members have been centrally involved in course design, assessment, and faculty development.

Expectations for what your team hopes to accomplish while at the Institute. We will focus on infusing and assessing project-based learning into two key sets of core curriculum courses generally completed in students’ first two years: the discipline-based Knowledge Perspectives (KP) courses focused on inquiry and problem solving and the Multidisciplinary Course (MDSC), centered on a social or intellectual problem that cannot be effectively addressed from only one perspective. These courses are ideally suited to PBL with their focus on interdisciplinary learning and teamwork. Specifically we will construct a framework for project-based learning and an assessment plan for each set of courses. Our deliverables include a tool kit that faculty will use to build project-based learning into their courses; assessment prompts and/or artifacts that can be used across sections; and rubrics for each course category.

A few words to describe your institution’s present work with project-based learning initiatives, programs, etc. Projects and project-based learning are a key component of our approach to learning, which emphasizes connecting classroom and professional experiences in all of our programs. Beginning with First Year Seminar, the core courses engage students in projects and PBL, and all majors require at least one internship. Multiple College structures encourage PBL, including a Small Business Institute and the Center for Community Based Learning; a campus-based retirement community and two preschools provide rich intergenerational connections. During the past year, a faculty study group explored strategies for expanding PBL and each member committed to implement a PBL component in a fall course; our annual Faculty Institute continued the focus on PBL, featuring strategies for forming and assessing student teams and for developing partnerships.

Aspects of curricular change, assessment, evaluation, etc. with which you would like assistance. We’d welcome help with encouraging faculty from all disciplines to extend their use of PBL, including team teaching; assessing the diverse outcomes implicit in PBL and translating the results into actions; developing electronic toolkits that are useful to (and used by) a range of faculty; and moving from class projects to project-based learning.

What you might like to discuss with other institutional teams. We would like to explore other institutions’ experiences with all of the above issues, as well as discussing opportunities for collaboration and resource sharing, particularly around professional development, assessment, and toolkits.

Areas of expertise that your team could share with other Institute teams (e.g., faculty development programs, process for adoption of institution-wide learning outcomes, assessment strategies, etc.). We bring a collaborative, cross-disciplinary approach to student learning and a culture of connecting instruction, assessment, and faculty development programming to continually improve students’ preparation. Our newly implemented outcomes-based core curriculum, developed by faculty across the college, embodies engaged learning and our philosophy of connected learning. We are eager to share our expertise in course and curriculum design, faculty collaboration, outcomes assessment, and faculty development programs to support all of these areas.

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1 Aesthetics & Creativity; Global & Historical; Individuals & Society; Scientific Inquiry & Problem Solving
Our team wants to learn how to create a new approach to the way we teach courses in our honors college. We have, for a decade, done mostly interdisciplinary education, an approach which the university adopted for its new general education program. We are now trying to find a new approach to teaching honors, both to meet the needs of students who come with increasingly high sets of skills and to continue to serve our mission to the university as a crucible for pedagogical experimentation.

The school has no organized, purposeful program to use problem-based learning, though several of the STEM faculty, the social work department, and a few other isolated faculty do incorporate some of the principles in their programs or classes.

Since Lipscomb does not have a strong or organized commitment to problem-based learning, we are coming with a lot of needs for figuring out how to start, especially in non-STEM disciplines.

We would, thus, benefit greatly from other teams which have had experience creating and developing new programs.

We do not know what particular strengths we bring to the conference. We have a team of new and experienced teachers and will listen well and help others think more carefully about their projects.
**Name/Location:** Middlesex Community College, Lowell & Bedford, MA

**Carnegie Classification:** 2-year Public, Undergraduate Instructional Program, Assoc: Associates

**Undergraduate Enrollment**

- **Head Count:** 9664
- **FTE:** 5816
- **% Residential:** 0%
- **% Commuter:** 100%
- **Degrees Offered:** AA and AS, as well as several Certificate Programs
- **Institutional Structure:** One college, two campuses (one urban, one suburban).

**Expectations:** Our team hopes to get a better understanding of how to develop teams in the classroom, tie PBL into programmatic outcomes, assess for PBL, partner with external organizations to do this work, and integrate PBL into STEM courses. We hope to get a better sense of what projects might look like given it would be in students’ first 2 years of higher education. Finally, how to share this information with other faculty through such avenues such as professional development.

**Present Work:** There has been some course re-design, but the continuity of such courses is somewhat unclear at this time. PBL varies by discipline and by course and is primarily in the form of service-learning. PBL does not appear to be occurring with our longer-serving faculty.

**Areas of Assistance:** Departments want to see data. How do we get that data as it relates to assessment, evaluation, and curricular change? How do we know this is a better outcome of what was done before? Assessment of PBL and whether faculty are actually doing it? How do we influence student resistance around change in course expectations?

**What to Discuss with Others:** We would like to also have discussions with discipline specific experts about their implementation efforts. Discipline specific examples of PBL? Length of PBL assignments?

**Expertise:** Campus-wide assessment efforts; Assessment for course improvement and improving student learning; General Education course redesigning to include Institutional Student Learning Outcomes (ISLO); Title III Strategies for Success course redesign; continued enhancement and alignment of initiatives and projects for student learning.
Roger Williams University—Bristol, Rhode Island
Carnegie classification:
- Undergraduate Instructional: Bal/SGC (Balanced arts & sciences/professions, some graduate coexistence)
- Basic: Master's S (Master's Colleges and Universities, smaller programs)
Undergraduate enrollment
Head count: 4610 (599 of which are Undergraduate Continuing Studies)
FTE: 4257.9
% Residential: 77.5%
% Commuter: 22.5%
Degrees offered: Associates, Bachelors, Post-Baccalaureate Certificates, Master's
Institutional structure (e.g., one college or several schools, professional programs, etc.): Multiple schools (including professional programs) reporting to a single chief academic officer
Anything else people should know about your institution

Following the header, please include very brief summaries of:

Expectations for what your team hopes to accomplish while at the Institute

Our institute team aims to create a plan for coordinating existing PBL/CE efforts at our University and for cultivating new campus centers of PBL excellence and expertise. Through participation in the Institute, we intend to create an actionable plan to develop and deliver this initiative across the university. This will include an analysis of the training, resources, and institutional support necessary to ensure the delivery of best practices and to utilize and maximize existing campus resources.

A few words to describe your institution's present work with project-based learning initiatives, programs, etc.

RWU has a diverse set of CE/PBL opportunities including discipline-based courses, team projects, capstones, internships, interdisciplinary seminars, and community-based action and advocacy courses. We possess a demonstrated record of effectively delivering CE/PBL via the RWU Community Partnership Center (CPC), which provides project-based assistance to nonprofit organizations, municipalities, and government agencies that benefit local communities while providing real-world experiences that deepen student learning.

Aspects of curricular change, assessment, evaluation, etc. with which you would like assistance

We seek to critically explore ways to institutionalize our CE/PBL initiatives as an active practice of our Core Values. Potential mechanisms for campus-wide integration include CE/PBL student learning outcomes for general education and CE/PBL minor and certificate programs.

What you might like to discuss with other institutional teams

Having recently completed an analysis of the university’s vision and institutional goals, we have articulated a coherent set of core values centered on engagement with and service to local, national, and global communities. We look forward to discussing with other institutional teams practical strategies for engaging faculty in developing new community partnerships, in exploring new pedagogical approaches and in pursuing opportunities for community-engaged scholarship.

Areas of expertise that your team could share with other Institute teams (e.g., faculty development programs, process for adoption of institution-wide learning outcomes, assessment strategies, etc.)

RWU offers a wide range of CE/PBL experiences and several contrasting models for effective engagement with communities locally and globally. As Institute participants, we are prepared to disseminate our models and practical knowledge relating to negotiating project specifications and scope, faculty development and project matching, and project execution and assessment. We offer our experience wrestling with the challenges of embracing distinct, effective yet contrasting models for CE/PBL in our General Education Program, the School of Education, the Honors Program, FLCs and in the CPC.
- Name and location of institution: Spelman College, Atlanta, GA
- Carnegie classification: Baccalaureate Arts and Sciences
- Undergraduate enrollment: 2,135
- Head count: 558
- FTE: 2088
- % Residential: 68%
- % Commuter: 32%
- Institutional structure (e.g., one college or several schools, professional programs, etc.): one college
- Anything else people should know about your institution:
  Spelman College is a historically Black college and a global leader in the education of women of African descent. Moreover, the college’s mission is “dedication to academic excellence in the liberal arts and sciences and the intellectual, creative, ethical, and leadership development of its students. Spelman empowers the whole person to engage the many cultures of the world and inspires a commitment to positive social change.” Our college’s faculty team participation in the PBL Institute will advance the Institute in implementing its goals of faculty curricular development, collaborative learning, and diverse institutional impact.

  *Expectations for what your team hopes to accomplish while at the Institute:* our team faculty hopes to improve their understanding and use of project-based learning as a way to increase student engagement

  *A few words to describe your institution’s present work with project-based learning initiatives, programs, etc.* As part of our 2010 strategic plan, Spelman College intends that by 2017 every student will have a capstone undergraduate research experience. Undergraduate Research program initiatives include: Mellon Foundation grants to support faculty work towards a campus-wide curriculum revision; faculty institutes and summer workshops to develop critical thinking, inquiry and analysis in the major; creation of a college-wide rubric, based on the AAC&U VALUE rubrics, which each department has incorporated into the assessment of its capstone research experience.

  *Aspects of curricular change, assessment, evaluation, etc. with which you would like assistance:* assessment of collaborative learning, scaffolding of courses and evaluation of transference of skills from one course to another

  *What you might like to discuss with other institutional team:* working on a blueprint of scaffolded courses in the major, and how individual faculty identify their contribution, through course development, to this effort.

  *Areas of expertise that your team could share with other Institute teams (e.g., faculty development programs, process for adoption of institution-wide learning outcomes, assessment strategies, etc.):* faculty development programs.
UMBC IPBL Team Overview

Institution: University of Maryland, Baltimore County (Baltimore MD)

Team Members: Marie desJardins (team leader), Professor of Computer Science; Julia Ross, Dean of Engineering and Information Technology; Michele Wolff, Director of the Shriver Center; Simon Stacey, Director of the Honors College; John Stolle-McAllister, Associate Dean for Student and Curricular Affairs, College of Arts, Humanities, and Social Sciences; Steven McAlpine, Assistant Director of Interdisciplinary Studies

Carnegie Classification: Doctoral Research – High

Undergraduate Enrollment:
- Undergraduates: 11,367 (85% full-time, 15% part-time; 66% residential, 34% commuter)
- Degrees offered: BS/BA, MS/MA, Ph.D.
- Institutional structure: Three primary academic colleges (Engineering and Information Technology; Arts, Humanities, and Social Sciences; Natural and Mathematical Sciences), Graduate School, School of Public Policy, School of Social Work, Erickson School on Management of Aging Services, Division of Professional Studies
- Other distinctive programs: Honors College, Scholars programs (Meyerhoff (Ph.D.-focused program for underrepresented minorities in STEM), Center for Women in Technology (gender diversity in computing and technology), Sherman Teacher Education, Sondheim Public Affairs, Cyber, Linehan Artist, Humanities); Shriver Center for applied learning and civic engagement.

Expectations / Help Needed / Topics To Discuss

Team Goal: Make project-based learning a central component of universal applied learning experiences at UMBC.

(1) Develop infrastructure to offer meaningful project-based learning experiences.
   a. Analyze resources for a remote project site for interdisciplinary curricular experiences.
   b. Envision new project-based learning spaces and required resources.
   c. Engage students who traditionally have not participated (e.g., academically at-risk, majoring in engineering and natural sciences, commuters, transfers).
   d. Explore mechanisms to create truly cross-disciplinary project-based learning activities.
(2) Identify an effective & scalable assessment strategy to measure student learning outcomes.
   a. Create an initial assessment strategy for current activities, as a baseline.

Current Work with Project-Based Learning

- Shriver Center: Applied learning, service-learning, and community engagement opportunities.
- Scholarship programs and Honors College: Require an applied learning experience.
- Interdisciplinary Honors Seminars: Credit-bearing project/team-based applied learning experiences.
- Undergraduate research: Research awards, REU programs, annual research day (> 200 student projects).
- BreakingGround Initiative: Community engagement through innovation, policy, leadership, and service.
- Working group: Inventory, count, and transcript opportunities; develop student learning outcomes related to affective functional competencies; create and support shared resources.

Areas of Expertise We Can Share

- Diverse campus perspectives and a wide range of disciplinary and interdisciplinary expertise.
- Leadership in undergraduate STEM education and support of diverse student populations.
- Success in externally funded initiatives for curricular innovation and scholarship programs.
- Highly active research university with a strong commitment to undergraduate teaching.
- Experience creating an Innovation Fund to energize new approaches to teaching and learning.
VIT University, Vellore, India

Head count (Full time enrolled) : 26,000 students
  Residential % : 75%
  Commuter % : 25%


Institutional structure:
  • Two campuses (Vellore and Chennai, India)
  • Each campus has constituent Schools for different disciplines
  • Offers degrees in Professional Engineering, Science and Management disciplines
  • Ranked as one of the top Engineering universities in India
  • Various engineering programmes have been approved by ABET

Goals: The primary objective of the Team will be to understand the complete process of Project Based Learning (PBL) and how to implement the concept in our University successfully.

Specifics:
  • How to motivate students to adopt PBL
  • How to help/make students identify a project of relevance to their course?
  • How to formulate a project, identify team members, how to plan its execution, etc.
  • How to plan the resources, time and work?
  • How to formulate faculty development programmes and implement the same so that faculty will be trained in implementing PBL in their courses?
  • How to balance available course time of a faculty between lecturing, project guidance, evaluation, etc.?
  • How to provide faculty guidance to student teams on inter disciplinary matters?
  • How to evaluate a project, measure individual student contribution, etc.?
  • How to motivate group work among student team members?
  • How to create/tune the existing Engineering curriculum currently adopted by our University into a PBL based curriculum?
  • What are the limitations of PBL and its implementation? How the University can provide administrative & financial support to various teams?

We expect our learning at WPI will help us to derive answers to the above questions so that the concept of PBL can be successfully implemented at VIT University.

Our University’s present work with PBL: Currently PBL is offered as part of about 150 courses. PBL group projects are decided by students with the necessary guidance of class faculty. These projects are executed by students within a time period of about 3 months and evaluated by the class faculty concerned. The projects carry a maximum weightage of 20 to 40% of a course. The quality of projects vary widely. Projects are partly supported by the University. Though most projects are based on the course syllabus, few are inter-disciplinary in nature and application based. Specific problems faced include: identifying problems for grades and not for learning; retaining interest of all student members of a project over the time period; diluted evaluation by faculty due to additional workload. We want to share our learnings in implementing PBL so far and are keen to listen from other teams their learnings in this area.
**Name/location of institution:** Western Carolina University (Cullowhee, NC)

**Carnegie classification:** Master’s Comprehensive

**Undergraduate enrollment:** Head count/FTE: 8787/8049; %Residential-42%; %Commuter-58%

**Degrees offered:** Bachelor’s/Post-Bachelor’s certificate, Master’s/Post-Master’s certificate, Doctoral (professional)

**Institutional structure:** College of Arts & Science, College of Business, College of Education & Allied Professionals, College of Fine & Performing Arts, College of Health & Human Sciences, Kimmel School of Construction & Technology

**Select Accomplishment/Recognitions:** 2008/2015 Carnegie Foundation Community Engagement Classification; 7th consecutive year on the President’s Higher Education Community Service Honor Roll; 2014 & 2015 #1 Adventure College – Blue Ridge Magazine; US News and World Report ranked WCU top 15 public regional comprehensive universities in the South

**Expectations for what your team hopes to accomplish while at the Institute & discussion points for other institute teams**

- Develop formal assessment tools for measuring educational outcomes and other positive impacts on students.
- Establish a transferable process for incorporating project-based learning in an interdisciplinary capacity.
- Learn new strategies for improving the efficiency of current project-based learning methods
- Establish mechanisms for incorporating the scientific results of PBL projects into personal scholarship activities.
- Establish a transferable set of project-based learning characteristics to be modified to frame a Leadership Minor Program.

**Current Relevant PBL Examples & Outcomes**

**Introduction to Remote Sensing (GEOG 324) Lab Exercise: Balloon Mapping on the WCU Campus**

Western Carolina University has undergone a multitude of changes over the past several years. For economic and educational reasons, it is important that WCU is represented accurately on the web. Balloon mapping is a do-it-yourself concept that allows anyone to take aerial pictures of any given location. The purpose of this project was to use balloon mapping to update aerial images of the WCU campus and submit them to Google's map imagery database.

- Students collaborate to collect aerial images of new areas of campus using established balloon mapping methods.
- Each student creates large composite images of the mapped area from individual photos.
- The class submits a final composite image of the WCU campus to Google for use in Google Maps and Google Earth.

**The Ripple Effect Learning Community (RELC) (ENT195): Project-Based Learning & Community Engagement**

RELC aims to provide educational experiences that prepare students to identify what they truly love about the world and ultimately be the change they want to see in it. By examining historical/current cases and theories of change, movements, and transformation, the RELC presents a transferable model for social change and future application in an experiential format.

- Students collaborate with community partners to address a community-based issue or opportunity.
- Apply and experience the Project Management Process Model first hand.
- Compare and contrast team dynamics and social entrepreneurship theories through practice.
- Determine, develop, and deliver a product/resource valued by the partner and considered educative by the students.

**Medical Entomology (ENHV 430/431): Incorporating Research Engagement Projects into an Environmental Health**

Western NC is home to the most common pediatric mosquito-borne disease in North America: La Crosse Encephalitis. This viral disease is responsible for the majority of human mosquito-borne disease in NC. In a required course for the Environmental Health Sciences major, students work in groups to accomplish meaningful engagement projects relating to course content.

- Prepared a written case report on a La Crosse Encephalitis patient after visiting their residence, assessing environmental risk factors, conducting mosquito surveillance, and providing public health recommendations. These were shared with community partners and public health agencies.
- Conducted a survey of container-inhabiting mosquitoes to document the presence of invasive mosquito species at WCU.

**Areas of expertise that your team could share with other Institute teams:**

- **Brian Byrd** is an award-winning Associate Professor of Environmental Health. In addition to his solid research record, he has been a stalwart advocate for the importance of undergraduate research connected to PBL/inquiry-based learning.
- **Carmen Huffman**, an award-winning Associate Professor in Chemistry & Physics, brings extensive expertise in PBL pedagogy and has led faculty development workshops on inquiry-based learning to a broad cross-section of disciplines.
- **Iveta Imre**, an Assistant Professor of Communications, has extensive international journalism experience and has recently been appointed Program Director for the new B.A. in Interdisciplinary Studies program.
- **Lane Perry**, Director of WCU’s Center for Service Learning, is an internationally-recognized expert in community engagement/faculty development and co-led the recent Carnegie Community Engagement reaffirmation process.
- **Diane Styers**, an Assistant Professor, Geosciences & Natural Resources, has expertise in using remote sensing and other “big data” to assess landscape changes affecting Earth’s resources and engage undergraduate students in authentic science.