

Wednesday, March 26
1:00pm
STEW 202

Living (with) Iteration: Redesigning Your Redesign

Emily Allen, Associate Dean, Honors College

Jason Ware, Instructional Developer, Center for Instructional Excellence

This presentation takes as its focus the continuing redesign of the first-year Honors College course series, HONR 19901-2, in order to think through the pleasures and perils of radical course redesign. Specifically, it considers what it means to engage in a "living iteration," in which students in a redesigned course participate in the ongoing design process.

Wednesday, March 26
1:00pm
STEW 204

Changing the Supply Chain Management Technology Classroom

Regena Scott and Edie Schmidt

Professors in the College of Technology, Technology Leadership and Innovation department

Dr. Edie Schmidt and Dr. Regena Scott have spent this year actively changing the Supply Chain Management Technology (SCMT) classroom. They used the information learned while in the IMPACT program to flip their classes, created a blended learning environment, designing interactive experiences and implementing student focused learning. In addition, they worked together mapping the SCMT curriculum to activities which logically link together the classes that are required to complete the SCMT major. Edie and Regena will present the steps taken in their curriculum changes, involve conference attendees in one of the hands-on activities used in their classes, review the process used to map the SCMT major courses, and discuss some of their lessons learned.

Wednesday, March 26
3:00pm
STEW 202

Problems Sessions, Recitations, and On-Demand Lecture for Calculus for Science & Engineering

Ben Wiles, Assistant to Department Head, Mathematics
Jim McClure, Professor, Mathematics

Plane Analytic Geometry and Calculus I (MA 16100) is a historically difficult, required course for engineering and science majors. The traditional configuration consists of 250+ students meeting in a large lecture 3 times per week and twice per week in smaller recitations of 40. Additionally, those who repeat the course often continue to encounter difficulty. A scalable, self-sustainable re-design has been implemented to attempt to address the needs of students that are not being met in the traditional configuration by diverting human resources from lectures to problem sessions, and from traditional Q&A instruction-led recitations to student-driven presentation/collaboration-based recitations. The students work in groups of 4 on activity sheets during the weekly 75 minute problem session and instructors are available to assist at a ratio of 15:1. A complete set of lectures have been cut into 5-10 minutes tagged clips and stored in a database so that students may reference them as needed to study and complete online homework. Preliminary results indicate a strong socio-academic environment in the problem sessions and within the recitations. A comparison to the traditional sections on standardized assessments indicates the experimental section maintains or exceeds the outcomes of the traditional version. Furthermore, students may benefit in ways that contribute to their academic growth and promote long term student success, but may not manifest on the high-stakes assessments in the current semester. We intend to extend the concept to Plane Analytic Geometry and Calculus II (MA 16200) in the near future while growing the existing experimental section.

Wednesday, March 26
3:00pm
STEW 204

Flipping Business Research: MGMT 175 Redesign and Scale-up

Ilana Barnes, Associate Professor of Library Science, Purdue Libraries

In the 2013 school year, a team of librarians in the Parrish Library for Management and Economics transformed a business information literacy course from a traditional lecture, 40-student, computer-lab class into multiple sections of a flipped, 70-student, computer-less class. This change was initiated following a departmental request that the successfully redesigned course become required for all 500 students. This process required examining the methods in which the class was delivered and the adaptation of flipped learning techniques for better utilization of library teaching resources and student-centered learning. This session will cover the case study and assessed results of the project, with key insights for others interested in implementing similar 1 credit classes or integrating video lectures, quizzes, tutorials and screencasts into their courses. It will also reflect upon the ways in which being part of the IMPACT program positively affected the course redesign

Thursday, March 27
9:00am
STEW 214AB

Encouraging Student Engagement through a Team-Based Hybrid Course Revision of Introductory Psychology

George Hollich, Associate Professor, Psychological Sciences

Karen S Neubauer, Assistant Director of Special Projects, Center for Instruction Excellence

Angelika Zissimopoulos, Instructional Developer, Center for Instructional Excellence

We describe a revision of introductory psychology designed to produce higher levels of student engagement (greater personal interest in psychology and deeper learning of the material). In our revision, students spent about two hours per week with prerecorded online lectures from 10 faculty members and one hour per week in small recitation sections led by graduate teaching assistants, but coordinated and designed by faculty knowledgeable in the latest pedagogical tools. By utilizing this team-based hybrid approach, we created a format with small class size, high-quality content, and activities that help students develop skills in research methods, working in groups, and in applying psychology to daily life. When compared with the large lecture sections, students in the hybrid sections had higher attendance, higher grades, and reported higher levels of satisfaction with the course on anonymous surveys. While not for everyone or all types of classes, this format provides a powerful tool to introduce a new generation of students to psychology.

Thursday, March 27
10:00am
STEW 214AB

Using Innovative Content Delivery and Learning Space Design to Improve Science Communication

Melanie Morgan, Associate Professor, Communication Department

The course, COM 217 Writing and Presenting for the Sciences, had challenges that made its redesign unique. First, it is part of the common core so there were aspects of the course such as course outcomes and objectives that were relatively fixed. Second, the course is standardized across multiple sections and taught primarily by TAs and limited-term lecturers. The day-to-day activities and session objectives are standard across each section with each instructor using the same course lesson plan, so all of the changes had to scale. Third, this is a communication course populated with students from the College of Science. Due to the required nature of the course, there is often student resistance to learning the skills being taught in a performance course like this. One of the major goals of the redesign was to increase students' perceptions of the relevance of the material to their disciplinary activities and professional goals. This presentation will focus on how some of these challenges were met by using innovative delivery of course material (e-text development), leveraging unique Purdue resources (C-SPAN archive) and implementing unique learning space design.

Thursday, March 27
11:00am
STEW 214AB

Accelerating Higher Education Learning Innovation

Gary R. Bertoline, Dean, College of Technology

Fatma Mili, Department Head and Professor, College of Technology

There is a general agreement that something dramatic needs to be done to change Higher Education in general and within the technical disciplines in particular. This change is necessary in order to better serve the needs of business and industry. Reports from various federal and professional bodies¹ have been consistent in their conclusions about the nature of the shortcomings in higher education, the substance of recommendations about what needs to happen to redress them, and the sense of urgency about the dire consequences of a lack of a *comprehensive, transformative, and timely* response. The key shortcomings in higher education are 1) an outdated higher education system that is no longer engaging students, and 2) an absence of demonstrable, significant learning of the skills needed for the 21st century. The key recommendations call for an overhaul of the curricula with a refocus on the skills needed in the 21st Century (creativity, innovation, collaboration, communication, and fluency with how to use knowledge to ponder and answer significant questions), the generalized adoption of empirically validated teaching practices, and the stronger integration of teaching, economic development, and research.

The proposed Purdue Polytechnic Initiative will establish an environment within the College of Technology that benefits from all the support and intellectual resources available at Purdue while enjoying ample administrative and decision making freedom. This will enable innovation, risk taking, and be an incubator for the most daring experiments to improve the learning experience for undergraduate students. This presentation will review the plans to transform the learning experience of undergraduate students through the Polytechnic Initiative.

¹ Boyer Report 1999, Gathering of the Storm 2005, 1-Million Engineers 2012, LEAP Report 2013, among others. Full references are found in the appendix.

Thursday, March 27
1:00pm
STEW 214AB

Creating a Dynamic Learning Experience for 1000 1st Year Students

Nathan Mentzer, Assistant Professor, Technology, Leadership and Innovation
Dawn Laux, Clinical Assistant Professor, Computer and Information Technology
Craig Locker, Graduate Teaching Assistant, College of Technology
Molly Van Scoy, Undergraduate, College of Technology

The College of Technology welcomes approximately 1000 new students each year. Tech12000, *Design Thinking in Technology*, is the first core course required for all incoming students. This discussion highlights the journey of four faculty members as they navigated a transition from a traditional lecture-based delivery model to a modern flipped pedagogy. Distance learning was blended with face to face classroom experiences to permit smaller class sizes with comparable resource allocation.

The journey began with support from the IMPACT program. Challenges included student engagement; problem and project based learning, increased instructor interaction while maintaining a dynamic learning experience for all 1000 students. Complexities of group based final projects, assessment and peer evaluation will be discussed.

Thursday, March 27
2:00pm
STEW 214AB

Changing Classroom Symposium

BCM10001 Introduction to Construction Management

Daphene Koch, Associate Professor, Building Construction Management Technology

The Department of Building Construction Management (BCM) has developed activities to increase student success in the Introduction to Construction Management course (BCM10001). In-class activities have been developed to support the learning objectives for the course which include:

- 1) Review the past, present and future of the construction management industry.
- 2) Identify resources for student success and lifelong learning at Purdue and beyond.
- 3) Demonstrate competencies in using computerized software to overview topics in Construction Management.
- 4) Differentiate between material uses and applications on a construction project.

Some of the most impactful activities include a Mock Career Fair utilizing industry partners to facilitate the career fair in the classroom, the day before the department career fair. Work experience is required for a degree in BCM, therefore, obtaining a job is necessary for students to successfully graduate in the program. Other activities are related to team building, strength of materials, scheduling, and project management.

Many of the activities in the class can be adopted by other majors. The presenter will share pros and cons of utilizing an IMPACT room along with student feedback. Attendees to this session will be participating in an activity that has been used in the class. Information will be shared that includes facilitation and evaluation techniques for the class.

Thursday, March 27
3:00pm
STEW 214AB

What Should Students Be Able To Do?

Larry DeBoer, Professor, Agricultural Economics

A few weeks into the IMPACT course last Spring, the session leaders proposed a principle: Don't ask what you want your students to learn from your course, ask what you want them to be able to *do* once they've taken your course. That changed everything. I wrote a new goal for my big Agricultural Economics 217 introductory economics class:

Use your knowledge of economic measurement, the economic model and the history of U.S. economic policy to understand and analyze economic events, both personal and global, which will occur during the rest of your lives.

Ag Econ 217 had traditionally been a lecture course. The PowerPoint went on in the first class and stayed on until the last class. Now, with the focus on "doing", I needed to find ideas and technologies that let students *practice* their skills, in class and out of class. This presentation will focus on what I found to make this transition successful.