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Common conversations about teaching and learning: Making an IMPACT

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COMMON CONVERSATIONS ABOUT TEACHING AND LEARNING: MAKING AN IMPACT

Clarence Maybee, Catherine Fraser Riehle, Michael Flierl
Purdue University



Three Conversations

- Campus-wide
- Faculty Learning Community (FLC)
- IMPACT Team

CAMPUS-WIDE CONVERSATION



Goals of IMPACT

- Increase student engagement, competence, and learning gains.
- Focus course redesign on research-based pedagogies.
- Refocus the campus culture on student-centered pedagogy and student success.
- Reflect, assess, and share results to benefit future courses, students, and institutional culture.

Individual Instructors to Departments



Evolving Interest in Participation

2012

Instructors interested in teaching innovations

2013

Instructors of core courses

2014

Departmental interest in select courses

2015

Departmental interest in curricular development

Supporting Curriculum Development



Purdue Polytechnic Institute

Summer 2015

6-week intensive IMPACT

2-week development of
Polytechnic coaching
model

2-day workshop with 35
Polytechnic faculty

Fall 2015 – Spring 2016

Polytechnic coaches
mentor the 35 faculty

Demand for Active Learning Classrooms



Capacity: 90

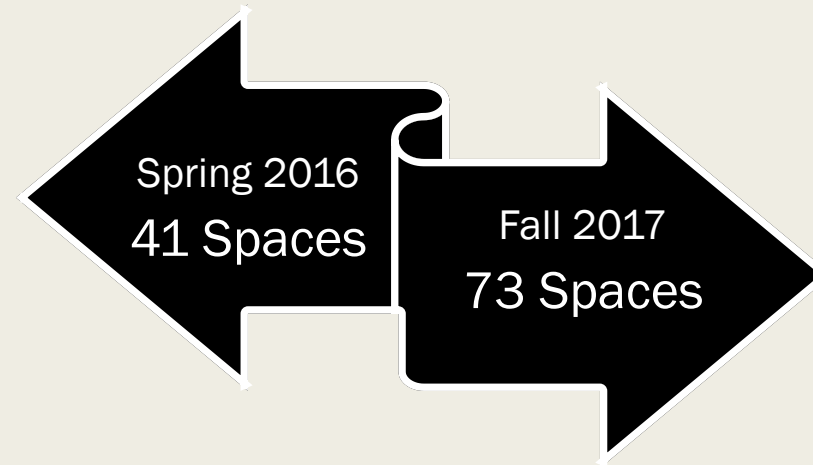


Capacity: 72



Capacity: 126

Hicks Undergraduate
Library



26 Active
Learning Classrooms

Wilmeth Active
Learning Center

2016 IMPACT Symposium

- Presentation on creating student engagement
- Faculty-led table discussions
 - Forging tomorrow's workforce
 - Empowering diverse learners
 - Fostering student success



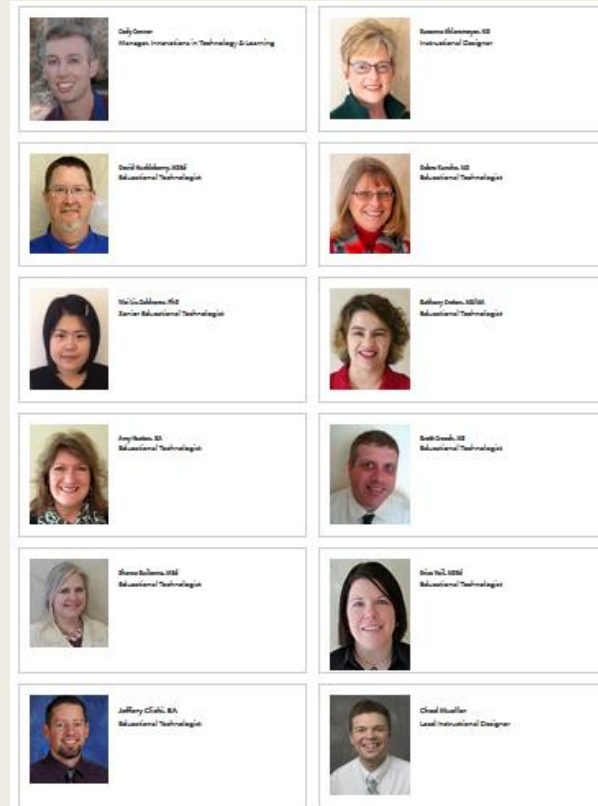
Dr. George Kuh presenting at the Symposium

Growing Through Partnership

Center for Instructional Excellence



Information Technology at Purdue



Purdue Libraries



IMPACT Librarians

- Recognizing our own expertise
- Sharing teaching and learning innovations with Purdue Libraries faculty
- Developing new methods for information literacy instruction



Geneva Bayles, PhD
Assistant Professor of Library Sciences
Information Literacy Specialist



Larry Bylski, PhD
Associate Professor of Library Sciences
History Librarian
Courtesy appointment as Associate Professor of History



Catherine Anne Kelle, MSW
Associate Professor of Library Sciences
Liaison for Communication, Human Development,
& Family Studies, and Women's Studies & Gender
Studies



Brynlee Speer, MS, MSW
Associate Professor
Engineering Librarian
Coordinator of Instruction
Division of Physical Sciences, Engineering, and
Technology



Michael Noel, USA, MSW
Assistant Professor of Library Sciences
Learning Design Specialist



Jane Wells, MS
Associate Professor
Health and Life Sciences Information Specialist



Rebekah Johnson, MSW
Assistant Professor of Library Sciences
Physical and Mathematical/Science Information
Specialist



Drew Smith, MS, MS
Assistant Professor of Library Sciences
Chemical Information Specialist



Sara Henderson, MS
Assistant Professor
Liaison for Accounting, Finance, Marketing,
Strategic Management, and Agricultural
Economics

FLC CONVERSATION



Goals of IMPACT

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- Refocus the campus culture on student-centered pedagogy and student success.
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FLC

- 13 weeks
- “Flipped”
 - LOTS vs. HOTS
- 3 Fellows + 3 Support staff/faculty

Key Deliverables

- Research Question
- Learning Outcomes and Objectives
- Assessment Map
- Learning Activities

Case #1 – Mat Sutton (IT 450)



Learning Outcomes

- Apply compound interest factors to establish economic equivalencies
- Use present worth analysis to evaluate alternatives
- Calculate a project's discounted payback period
- Use annual worth analysis to evaluate alternatives
- Calculate a project's breakeven rate of return
- Use rate of return to evaluate alternatives

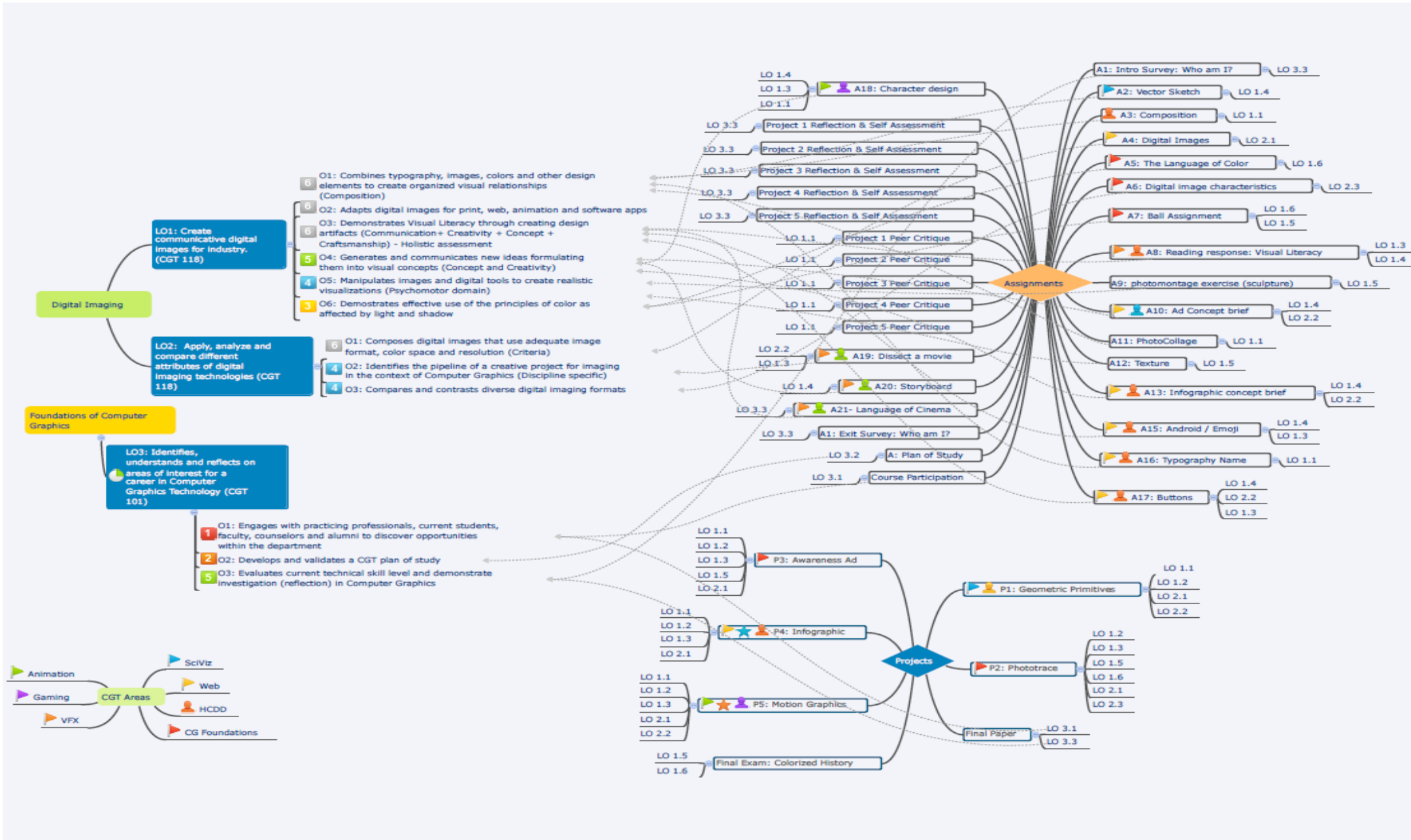
Revised Learning Outcomes

- Apply compound interest factors to establish economic equivalencies
- Evaluate alternatives using various economic analysis methods
- Apply economic analysis concepts to personal finance situations
- Calculate tangible asset depreciation for book values and tax purposes

Case #2 – Larry DeBoer (AGEC 217) and Esteban Garcia (CGT 118)



	A	B	C	D	E	F	G	H	I
1	Final Exam/Project Assessment Template								
2									
3		LO & specific objective	Bloom's #	E1 Questions	E2 Questions	E3 Questions	% of grade	Lesson Plan Brief Description	Timeline
4	LO1: 1. Predict market equilibrium and changes in equilibrium.	Infer whether a change in economic conditions affects the behavior of buyers or sellers.	2	6, 7, 20, 28, 29, 35, 39	23,		3.3%	02 - Supply and Demand	Week 3
5		Infer whether the change affects the demand (supply) curve positively or negatively.	2	7, 8, 12, 15, 20, 21-23, 35, 39	11, 23	28-30,	6.3%	02 - Supply and Demand	Week 3
6		Illustrate how a shift in supply (demand) affects quantity and price in equilibrium.	3	10, 21-23	4, 9, 30,	28-30,	4.2%	03 - Equilibrium, ongoing	Weeks 4-9
7		Calculate how variables such as revenue or costs change as equilibrium changes.	3	24	2, 5, 8, 17, 28, 35, 39	14, 33,	4.2%	04 - Elasticity, ongoing	Weeks 5-9
8									
9	LO2: 2. Identify costs and benefits involved in economic decision making.	Identify opportunity costs when presented with a hypothetical economic agent's choice.	4	14, 32	9, 40		1.7%	01 - Trade and Comparative Advantage, ongoing	Week 1
10		Identify the benefits of a hypothetical agent's choice.	2	19			0.4%	00 - The Nature and Method of Economics	Week 1
11		Infer whether the opportunity cost (benefit) is diminishing or not.	2			21,	0.4%	00 - The Nature and Method of Economics	Week 1
12		State conditions under which a hypothetical agent will rationally choose an action.	4		6, 12, 22, 26-27, 40	3, 40	3.8%	06 - Price System and Efficiency	Week 8



Reflection & Self-assesment

Project 2

In this project, I was able to:

Compose digital images that have an adequate format, color space and resolution

Manipulate images and digital tools to create realistic visualizations

Demonstrate effective use of the principles of color as affected by light and shadow


Project strengths

Project weaknesses

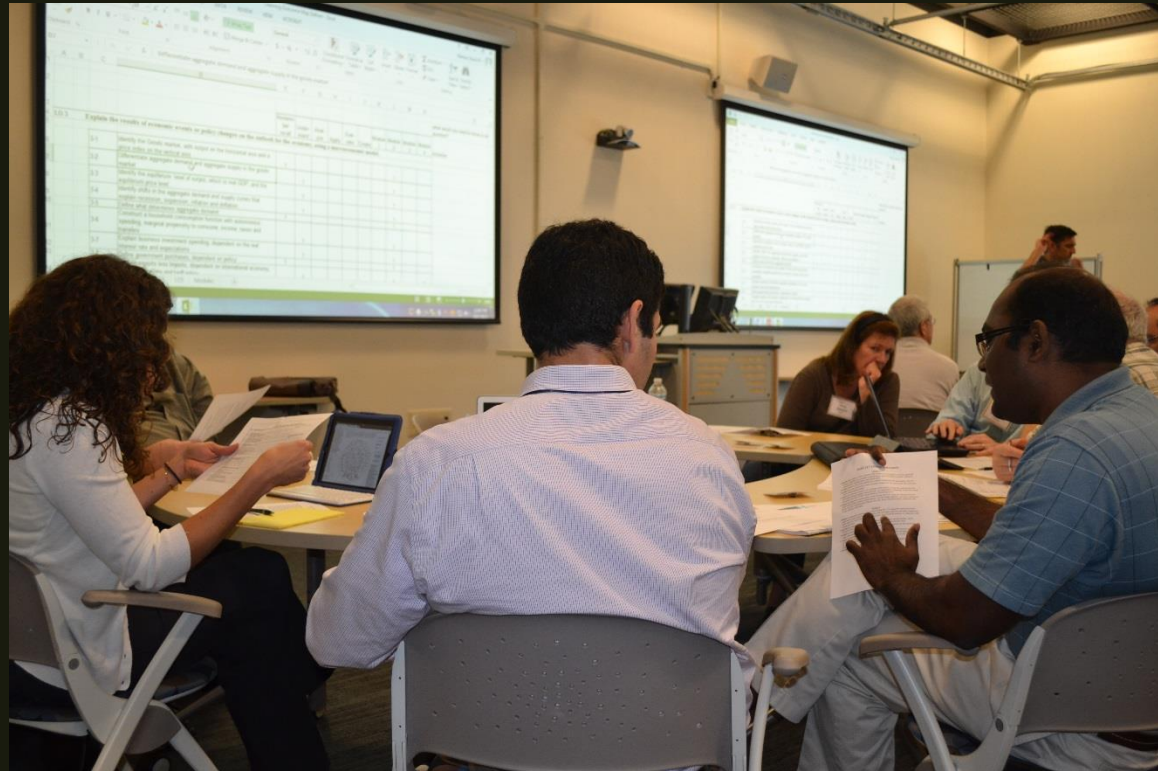
Case #3 – James Jenkins (BCM 457)

- Research Question:
 - *“How can I make OSHA Safety Regulations more exciting and engaging?”*



BCM 457		Learning Outcomes					Student-Centered Learning			Other	
Construction Safety 		1. Create a safety plan to manage jobsite operations in accordance with OSHA Safety Regulations (Create)	2. Evaluate & mitigate jobsite hazards (Evaluating)	3. Determine appropriate safety equipment & procedures for construction activities (Evaluate)	4. Analyze the costs & causes of accidents (Analyze)	5. Use key safety phrases in Spanish to communicate with Hispanic workers (Apply)	Autonomy	Competence	Relatedness	Classroom Space	Information use
Active Learning Activities, pedagogies, and/or Educational Practices	Group/Class Discussion	← Case studies in small group discussions →						Instructor will highlight correct answers given by groups.		Students will be asked to find information outside of assigned texts/readings to research technology to improve safety	
	Reflection						Students acknowledge what they did correctly in reflection.				
	Challenging/fun activities		Game Show			Students will create video of themselves speaking Spanish	Rap Song	Students receive low-stakes assessment on how well they understand subject matter	Students get chance to talk with other students about experience		
	Lecture	← Lectures will be punctuated by small group work, quizzes, and various activities. →							Problems/issues from last class, reflections, or quizzes will be addressed at beginning of class.		
	Demonstration			Hands-on Activities with Construction Safety Equipment			Students conduct safety meeting for BCM 175 course (in construction lab)				
Methods of Assessment	Low-Stakes Quizzes			Low-Stakes Quiz to be taken at beginning of class.							
	Exams		← Exams will cover Learning Outcomes 2-5 →						Encourage student-study groups.		
	Group-Project	Creation of Safety Plan for given project					Student groups select jobsite to create safety plan	Students work in teams, and are instructed on how teams should function.			

IMPACT TEAM CONVERSATION







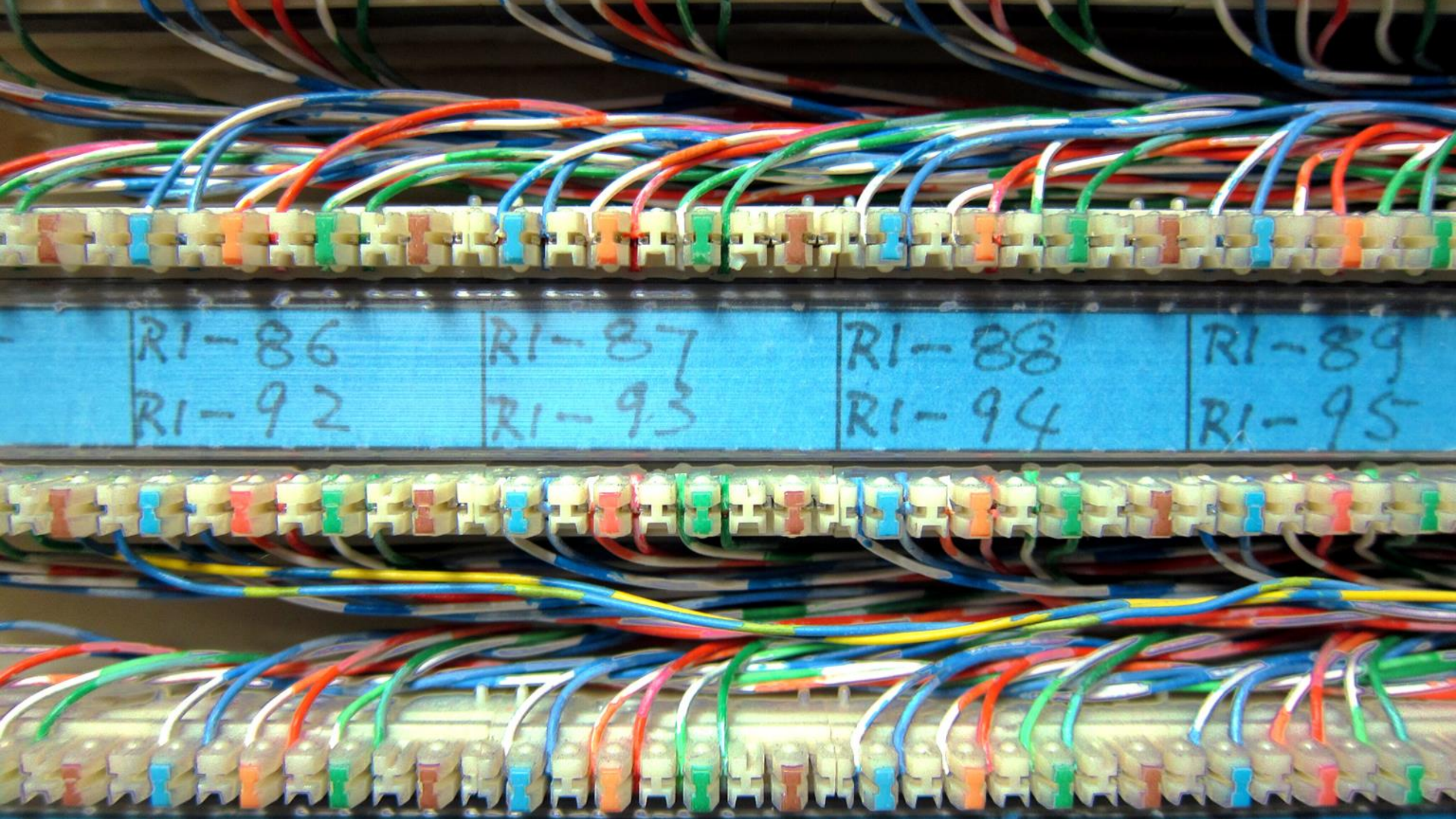
Interdisciplinary

Similar goals

CIE

Libraries

ITaP



RI-86

RI-87

RI-88

RI-89

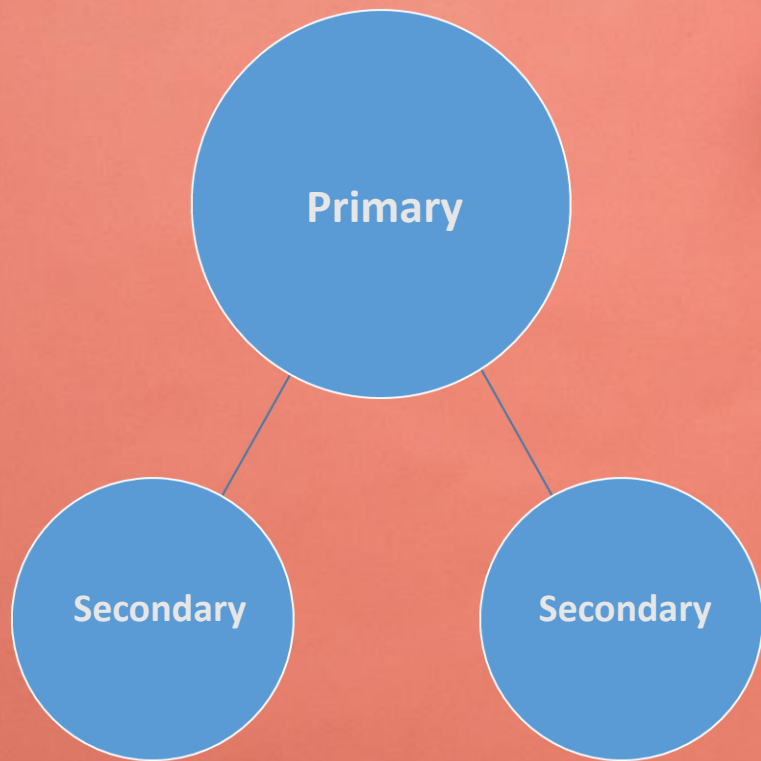
RI-92

RI-93

RI-94

RI-95







Primary

- Leading FLC discussions
- Monitoring progress
- Communication lead
- Biweekly reporting
- Dashboard surveys



A Venn diagram consisting of three overlapping circles. The left circle is orange and contains the word 'ME'. The right circle is teal and contains the word 'YOU'. The two circles overlap in the center, and a third, smaller brown circle overlaps the intersection of the orange and teal circles, containing the word 'US'. All text is in a white, handwritten-style font.

ME

US

YOU

ME

US

YOU



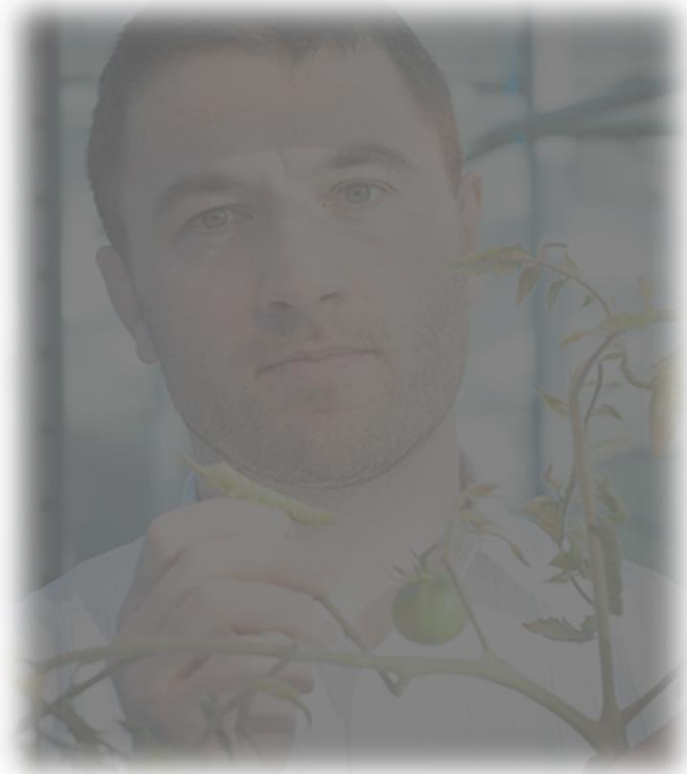
Emily Allen
Associate Dean
Honors College



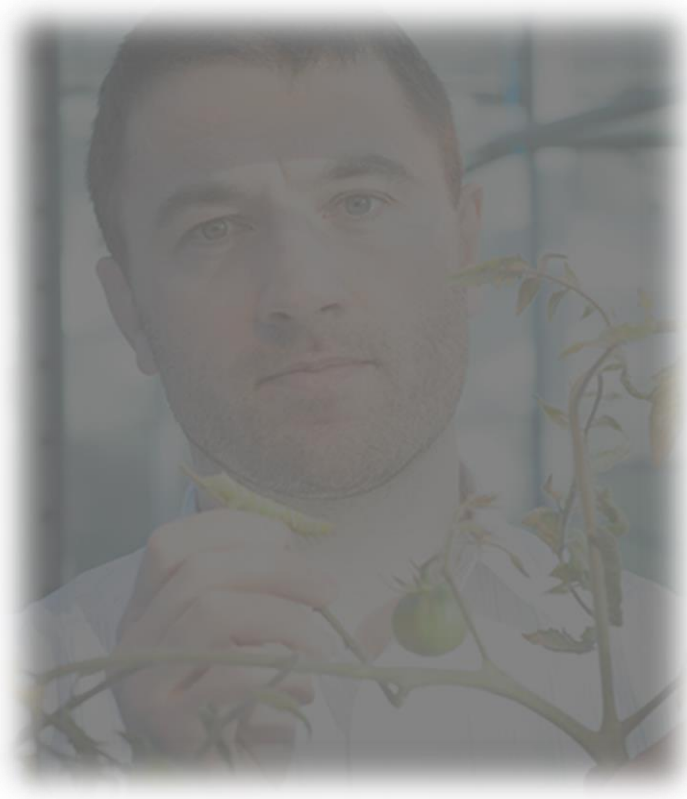
Jerri Faris
Continuing Lecturer
Communication



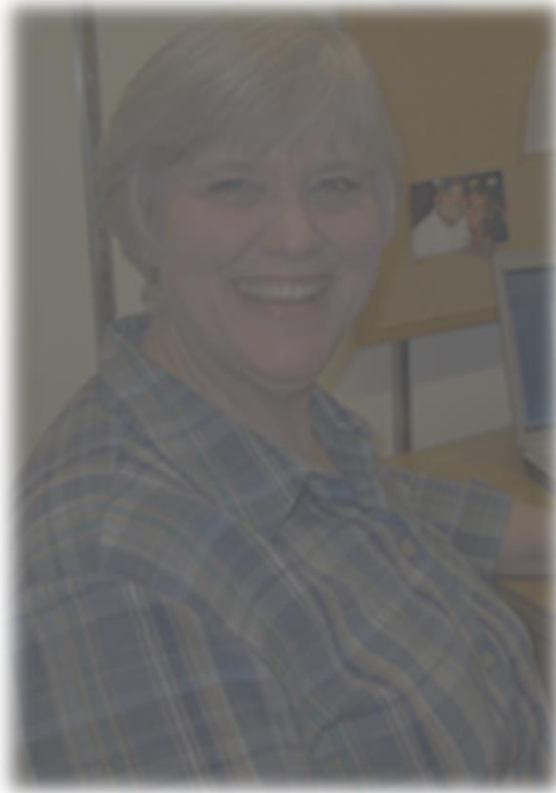
Ian Kaplan
Associate Professor
Entomology



Emily Allen
Associate Dean
Honors College



Jerri Faris
Continuing Lecturer
Communication



Ian Kaplan
Associate Professor
Entomology



Ian Kaplan
Associate Professor
Entomology

“Got some of my best scores this semester – 4.8/4.9 on course/instructor reviews! 😊 And some quite positive written-in comments ... This feels great after all the time and effort that went into learning how to teach last semester in IMPACT and the implementation this semester. Thought I’d share since you guys led me through this journey.”





Ian Kaplan
Associate Professor
Entomology

“This class was excellent ... It was very engaging, relevant, up-to-date, well illustrated, and organized ...The subject matter alone was fascinating but what really made this class exceptional was the manner in which the subject matter was presented. This course more than any other turned my brain on and invited me to question, think critically, and grow as a scientist. This class succeeded in not only giving me useful skills, but in helping me become a more effective thinker ...”

▪ undergraduate student, *per the instructor / course evaluation*



THANK YOU.