MEMORANDUM

To: Graduate Council Members
From: John C. Keller, Dean
Date: August 27, 2015

The Graduate Council will meet Thursday, September 3, beginning at 8:15 a.m. in the Callen Conference Room, 5 Gilmore Hall (lower level).

AGENDA

1) Approval of the minutes of the August 27, 2015 meeting – see attached (Keller, 5 minutes)

2) Announcements (Keller, Jardine, 15 minutes)

3) Proposal to rename the MA in the subprogram of Educational Psychology (thesis & non-thesis) to the MA in the subprogram of Learning Sciences in the program of Psychological and Quantitative Foundations in the Department of Psychological and Quantitative Foundations in the College of Education – see attached (Keller, 15 minutes)

4) Overview of the Office of Academic Affairs operations and initiatives (Larsen, Arbisi-Kelm, 20 minutes)

5) Review of PhD Programs and the Graduate Council’s role (Larsen, Keller, 20 minutes)

Meeting Dates
September 3
September 17
October 1
October 15
November 5
November 19
December 10
December 17 (if needed)
Graduate Council
September 3, 2015

Present: Professors Ankenmann, Banas, Cowles, Creekmur, Fethke, Figdor, Ganim, Kristof-Brown, Moore, Moorhead, Quelle, Xiao; Graduate Students Bernabo, Gerstle, Jardine, Marchal; Deans Keller, Larsen; Staff Arbisi-Kelm, Crooks, Teitle

Absent: Professors Wurster; Staff Chickering

1) The minutes of the August 27, 2015 meeting were unanimously approved.

2) Announcements and updates:
   • The Graduate Student Senate will hold its first formal meeting of the year on September 15.
   • The 2016 Obermann Graduate Institute will take place the week of January 11 through January 15. Students from ALL disciplines are encouraged to apply. The application period runs August 24-October 13, 2015. More information may be found here.
   • The Graduate College post-comprehensive research awards will soon be announced. Departments may nominate (in rank order) up to two students per deadline. Nominations are due October 15, 2015 (funding for Spring 2016 semester) and may be made here.
   • Council members are invited to a lecture by Leonard Cassuto, Professor of American Literature at Fordham University and author of The Graduate School Mess (2015, Harvard UP) who will deliver a lecture later today in EPB entitled “Inside the Graduate School Mess: A Conversation about Problems and Solutions.”

3) Dean Keller presented a proposal to rename the MA in the subprogram of Educational Psychology (thesis & non-thesis) to the MA in the subprogram of Learning Sciences in the program of Psychological and Quantitative Foundations in the Department of Psychological and Quantitative Foundations in the College of Education. The renaming will be for the MA only, better align the program with faculty strengths, and align the program with changes taking place in the field. The program will also move on line. No additional resources or courses will be needed. Associate Professor Kathy Schuh and Assistant Professor Benjamin Devane were present to answer questions. A motion was made to approve the proposal and passed with 15 affirmative votes and 1 abstention.

4) Assistant Dean Arbisi-Kelm provided an overview of the Office of Academic Affairs (OAA) operations and initiatives. New infrastructure provides seamless service and help to students at every step of their academic careers. The focus of OAA has moved to the prevention of issues. Examples given included: new thesis formatting requirements, the development and promotion of Undergrad-to-Grad (U2G) degree programs, the coordination of Graduate College Orientation activities with others on campus, and the move of Plans of Study from paper to and electronic format.
5) Associate Dean Sarah Larsen gave a summary of the Doctoral Program Review work to be undertaken. This work is a continuation of work done by the Strategic Task Force on Graduate Education (2009-2010). While a number of actions recommended by that initial task force are ongoing, it is time to re-evaluate the progress made. The timeline allows for program updates to be made to data, evaluations by discipline-based subcommittees, recommendations by the oversight committee, and review by the Graduate Council before submission to the Provost in mid-March. Many details continue to be finalized. Dean Larsen took questions from the Graduate Council.

The meeting was adjourned at 9:42 a.m.
August 25, 2015

John C. Keller, Ph.D.
Associate Provost for Graduate Education
Dean of the Graduate College
201 Gilmore Hall

Dear Dean Keller:

I enthusiastically endorse the proposal that is being submitted to the Graduate Council to change the name of our Educational Psychology MA program to Learning Sciences. The plan has been developed collaboratively by all of the faculty in the Educational Psychology program and is endorsed by DEO Tim Ansley and other faculty in the Department of Psychological and Quantitative Foundations. The title also speaks to the future.

Highlights of the program include 1) an updated curriculum with three new core courses that focus on 21st Century design, implementation, and inquiry in technology-rich learning environments; and 2) use of online platforms to reach a broader audience of practitioners, professionals and potential graduate scholars.

The Learning Sciences MA program builds on our strengths and relies on resources already in place. It will bring the degree program into line with employment opportunities in education, regionally and nationally. As the only Learning Sciences program in the state of Iowa, this degree program will offer potential students a unique and in-demand course of study that is focused on new ways of designing learning environments and engaging with learning technologies.

I am in full support of this proposal and confident the Graduate Council will see its merit as well.

Sincerely,

Nicholas Colangelo, Ph.D.
Dean
March 25, 2015

Dean John Keller
Graduate College

Dear Dean Keller:

I am writing to offer my complete support for the proposal to change the name of our Psychological and Quantitative Foundations MA (thesis and non-thesis) subprogram from Educational Psychology to Learning Sciences. This coincides with an adjustment of degree requirements. These changes integrate the currently dormant Instructional Design subprogram with our Educational Psychology subprogram to form a new subprogram of Learning Sciences. This change will broaden the appeal of our program and serve a variety of professional needs. This move also reflects a growing national trend to reshape the long-time core foundational discipline of Educational Psychology. This change also builds on the changing demographics and strengths of our faculty. While ours is not the first program to shift in this direction, I believe the strengths of our faculty will quickly distinguish our program from those of peer institutions. I am very confident that this MA program will attract a substantial number of students to the university.

In my nine years as DEO, the most common question posed by colleagues on our campus and beyond has been, “When will you bring back the Instructional Design program?” That program, which closed due to faculty attrition, was very successful. There were many students enrolled and those who graduated had numerous employment options. The proposed change will fill this void. In addition, this MA program will undoubtedly enhance the admissions to our Ph.D. programs.

All of the faculty members have endorsed this change. Our department, Psychological and Quantitative Foundations, is committed to the success of the venture. We will direct resources toward the initial needs of this program. Our department office will also assist with advertising and other logistics to get this new program off to a running start.

I applaud the current faculty for their initiative. They have worked for over a year to make this change possible. It is very gratifying to see colleagues willing to move proactively to enhance the stature of their academic program.

Sincerely,

Timothy N. Ansley
Department Executive Officer
Psychological and Quantitative Foundations
Subprogram Name Change Proposal

Program College: Graduate College
Curricular College: College of Education
Academic Unit: Department of Psychological and Quantitative Foundations
Degree Objective (with and/or without thesis): Master of Arts
Program: Psychological and Quantitative Foundations

Subprogram CURRENT: Educational Psychology (Thesis & Non-thesis)
Subprogram PROPOSED: Learning Sciences (Thesis & Non-thesis)

Available to: Degree-seeking students
Advisor: Kathy L. Schuh, subprogram coordinator
Effective Session: Fall 2015
Declarable in ISIS: No
CIP Code: 13.0607 Learning Sciences
# Table of Contents

1) Cover letter and purpose of subprogram  
   pg. 3

2) Present need for the subprogram  
   pg. 5

3) Description of subprogram  
   a. Description of curriculum  
      pg. 7
   b. Description of 6-credit hour focus areas  
      pg. 8
   c. Current versus proposed course offerings  
      Pg. 10
   d. Comparisons with similar subprograms at other universities, specifically with another Iowa Regent’s university  
      pg. 11

4) List of faculty available for the proposed subprogram  
   pg. 13

5) Assessment of future needs commitments, and opportunities  
   a. Instructor availability  
      pg. 14
   b. Admissions standards and advising processes  
      pg. 14

6) Faculty in department engaged in research related to the proposed subprogram  
   pg. 16

7) Availability of fellowships, scholarships, and assistantships  
   pg. 17

8) Relationship of the MA curriculum in the Learning Sciences to the Ph.D. curriculum in Educational Psychology  
   pg. 17

Appendix A: Legacy and history of the Instructional Design subprogram  
   pg. 19

Appendix B: New course syllabus – Foundations of the Learning Sciences  
   pg. 20

Appendix C: New course syllabus – Tools and External Representations in Learning Processes  
   pg. 26

Appendix D: New course syllabus – Design of Learning Environments: Theory, Practice & Method  
   pg. 37

Appendix E: MA in Learning Sciences Advising Form  
   pg. 50

Appendix F: University Tuition Proposal  
   Pg. 52

Appendix G: Letter of Support from DEO Dr. Timothy Ansley  
   Attached
TO:  
John Keller, Ph.D.  
Assistant Vice Provost for Graduate and Professional Education  
and Graduate College Dean

FROM:  
Kathy Schuh, Ph.D  
Benjamin DeVane, Ph.D  
Assoc. Professor  
Asst. Professor  
Educational Psychology  
Educational Psychology

We are writing to submit for review by the Graduate Council of the University of Iowa Graduate College the attached Proposal to Rename the Masters of Arts in Psychological and Quantitative Foundations with subprogram in Educational Psychology to the Masters of Arts in in Psychological and Quantitative Foundation with subprogram in Learning Sciences. It would be the first and only current Learning Sciences graduate program in the state of Iowa, and it would not be duplicative of programs or subprograms at other Regents’ institutions (see pg. 9).

The request for a name change has been approved by Dean Nicholas Colangelo and Associate Dean David Bills of the College of Education and has been endorsed by the Department of Psychological and Quantitative Foundations.

Attendant to the name change we will introduce three new courses to our existing curriculum and also expand the options for the capstone experience for the subprogram.

The overarching purpose of this name change from Educational Psychology to Learning Sciences is to further invigorate our Master’s program. Specifically, the modified subprogram will: a) better align with technology-driven, design-focused and practice-oriented employment opportunities in education, nationally and regionally; b) become more attractive to students looking for a cutting-edge field of study; c) better position the subprogram with regard to overall trajectory of the field; d) better attenuate the subprogram with its faculty’s expertise in teaching and research; and e) better accommodate the needs of professional and remotely-located students in the state and elsewhere.

The learning sciences (LS) integrate learning, instruction, and technology through interdisciplinary research, design and practice. The field of the learning sciences investigates how people learn relative to technologies, environments and real-world practices. Gaining in popularity nationally and internationally, the field of the learning sciences investigates the design, practice, and nature of learning in a number of settings: K-12 schools, museums, institutions of higher education, workplaces, healthcare contexts, and in online environments. This broad scope extends the potential reach, impact, and audience for our subprogram throughout the state, region, and nation.

We are hopeful that the subprogram of LS at the MA degree-level will entice a variety of potential students, including those who might currently be interested in our MA subprogram of Educational Psychology, those who would have been interested in the former Instructional Design and Technology (ID&T) subprogram, and many others. Included in this proposal you will find an 1) explanation of the present need for the adjusted subprogram, 2) a description of the field and program, 3) a list of faculty available for the proposed program, 4) a letter of clearance
from the department chair, 5) an assessment of future needs, commitments and opportunities; 6) an account of related faculty research.
2) Present Need for the Requested Name Change

The need for the adjusted subprogram grows out of the changing landscape of the fields of education and learning. Educational and instructional organizations increasingly confront the need for knowledgeable workers who can a) create, employ, and rework new technologies for teaching, learning and assessment; b) help learners adapt to changing contexts, problems, and technologies while fostering deep and effectual learning in 21st century contexts. As a field that grew out of the intersection of computer science, cognitive science, anthropology, and educational psychology in the 1980s, the learning sciences has become more central to efforts to transform educational practice, assessment, and scholarship.

Our educational psychology subprogram is already built upon foundations shared with the learning sciences. The adjustment in the curriculum and name change will better align our M.A. program with contemporary trajectories in research and practice. The learning sciences’ emphasis on understanding and shaping learning in a number of settings – schools, workplaces, colleges, museums, online environments and healthcare arenas – supports a broader audience of students and more engagement with organizations and companies statewide.

New learning technologies. Major reports have emphasized the importance of the learning sciences to technology-supported and cyber-learning. Institutions in both the public and private sector increasingly emphasize the need for designers, teachers, support staff, analysts, and evaluators who understand new technologies and can develop innovative ways to integrate them into learning environments and assessment processes.

The National Educational Technology Plan (2010), authored by the U.S. Department of Education, writes that:

The challenging and rapidly changing demands of our global economy tell us what people need to know and who needs to learn. Advances in learning sciences show us how people learn. Technology makes it possible for us to act on this knowledge and understanding. (pg. vi)


Both cyberinfrastructure and the learning sciences are areas of high priority and significant investment for NSF, yet little attention has been paid to the productive intersections between them. It is imperative that NSF establish a coherent approach to cyberlearning to enable the transformational promise of technology for improving educational opportunity. (pg. 13)
Our educational psychology subprogram already has a solid foundation in instructional and learning technology, and a new project-based course will further emphasize the linkages between design, research and practice in media- and technology-enabled environments.

**Fostering deep learning and transfer in 21st century contexts.** Increasingly commercial and governmental bodies emphasize the need for the development of ‘21st century skills’ that span a number of work and life domains. These skills range from creativity, collaboration, and critical thinking to media and technologies literacy. Again, reports from major institutions identify the learning sciences as an important field in helping schools and workplaces adapt to these new circumstances.

The widely cited National Academies report *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century* (2012) emphasizes the importance of work in the learning sciences on transfer of competencies across contexts:

> The most extensive and rigorous research related to deeper learning comes from the learning sciences. Although this research has focused on acquisition of cognitive knowledge and skills, it indicates that deeper learning and complex problem-solving involves the interplay of cognitive, intrapersonal, and interpersonal competencies. (pp. Sum 6-7)

In a similar vein, *Teaching and Learning 21st Century Skills: Lessons from the Learning Sciences* (2012), a major report prepared for the Asia Society by the RAND Corporation, describes how findings from the learning sciences should shape education, emphasizing the need for instruction that has real-life relevance, cross-disciplinary implications, develops thinking skills, and encourages transfer of learning, among other characteristics.

**Need in Iowa**

A learning sciences M.A. subprogram would be well-positioned to contribute to workforce needs in the state of Iowa. Iowa has a very robust education and assessment sector, and companies like Pearson and ACT have very substantial presence in the state. Iowa education-sector companies often hire students with both masters and doctoral degrees, and subsidize advanced degrees for their existing employees. Current educational psychology part-time students who work for these companies report that their employers are looking for graduates with training in design of learning environments, new technologies, and assessment. Aside from possibilities in the K-12 sector, Iowa also has a number of public and private institutions of higher education that need learning technology- and design-support staff. As we detail in Section 3b), comparisons with similar programs at other universities, no learning sciences programs or subprograms exist in the state of Iowa.
3) Description of Subprogram

Anticipated for the fall of 2015, the College of Education will offer an online Master of Arts degree in Psychological and Quantitative Foundations with a subprogram of Learning Sciences. All course work for the degree will be available online. We plan to also teach the same courses in-person as the demand or need arises, but priority will be given to offering the online courses required to complete the degree. This degree offering evolves from the college’s long-standing masters’ degree subprogram in Educational Psychology (See subprogram history, Appendix A).

The learning sciences is an interdisciplinary field that draws on multiple disciplinary approaches to education, cognition, design, and computing to study learning in contexts that may include the classroom, but can also include learning at home, on the job, in online environments, and other everyday settings. We have chosen to simply name the subprogram “Learning Sciences” to clearly communicate to potential students and employers of our future graduates the scope of the subprogram. At this time, our Ph.D. subprogram will remain Educational Psychology. When referencing both subprograms together, we will refer to them as “Educational Psychology and Learning Sciences.”

All Educational Psychology masters’ courses that are currently offered are also included in the Learning Sciences curriculum. Four of these courses are currently offered online, and two others are in the process of being transitioned to an online format. The 30 semester hours masters in the Learning Sciences will have a strong emphasis on how theory and research inform our understanding of learners, learning, instruction, and the technology and environments in which learning and instruction occur.

The curriculum also includes courses in the theories of the learning sciences, design of effective learning environments and technologies and implementation of instructional designs. Elective opportunities allow the student to choose a focus area of interest to develop a multidisciplinary specialization and allows them to customize the degree to their own future or current employment goals. Current focus areas include media and technology, human development and motivation, measurement, and music education. The capstone experience of the subprogram is an internship/practicum/project that allows the student to apply knowledge of the Learning Sciences in a context of interest. For a description of the admissions standards and advising processes for the changed subprogram, please see section 5b of this document.
### Description of Curriculum (30 credit hours)

#### Required core courses (24 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQF:6200</td>
<td>Educational Psychology</td>
</tr>
<tr>
<td>PSQF:6203</td>
<td>Tools and External Representations in Learning Processes</td>
</tr>
<tr>
<td>PSQF:6204</td>
<td>Foundations of the Learning Sciences</td>
</tr>
<tr>
<td>PSQF:6205</td>
<td>Design of Instruction</td>
</tr>
<tr>
<td>PSQF:6208</td>
<td>Designing Educational Multimedia OR</td>
</tr>
<tr>
<td>PSQF:6214</td>
<td>Design of Learning Environments</td>
</tr>
<tr>
<td>PSQF:6281</td>
<td>Cognitive Theories of Learning</td>
</tr>
<tr>
<td>PSQF:6299</td>
<td>MA Project: Internship/Practicum/Portfolio</td>
</tr>
</tbody>
</table>

#### Focus areas (6 credit hours, see associated courses on pg. 9)

<table>
<thead>
<tr>
<th>Focus Area</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Development and Motivation</td>
<td>PSQF:6203 Tools and External Representations in Learning Processes</td>
</tr>
<tr>
<td>Technology and Media</td>
<td>PSQF:6203 Tools and External Representations in Learning Processes</td>
</tr>
<tr>
<td>Measurement and Evaluation</td>
<td>PSQF:6203 Tools and External Representations in Learning Processes</td>
</tr>
<tr>
<td>Music &amp; Cognition</td>
<td>PSQF:6203 Tools and External Representations in Learning Processes</td>
</tr>
</tbody>
</table>

### Required Courses (24 credit hours)

**PSQF:6204 Foundations of the Learning Sciences** (new course, see syllabus Appendix B, proposed and developed Spring 2013, implemented and taught online Fall 2014)

This course is an introduction to the Learning Sciences, an interdisciplinary field that focuses on the scientific study of learning, the environments in which learning takes place, and how learning is fostered through learning innovations. In this class we will explore the theoretical and methodological foundations of the field as components of a process to study learning in context. Learning context, in this case, is considered broadly. While it certainly includes environments such as traditional classrooms, it also includes any other venue where learning can and does take place.

**PSQF:6205 Design of Instruction** (existing course, implemented and taught online Spring 2013)

This course is an introduction to the process of Instructional Design. It provides a broad and critical overview of the process used to design, develop, implement, and evaluate effective instruction and instructional materials. This process includes the following activities: analysis (e.g., identifying learning needs, analyzing tasks and contexts, etc.); design and development of an instructional solution; visual design and production; formative evaluation and revision; implementation; summative evaluation; and project management.

**PSQF:6200 Educational Psychology** (existing course, currently being developed for online offerings)

There are number of domains that contribute to an understanding of educational issues. The goal of this course is to improve students’ ability to reason psychologically about teaching and learning. In practicing this ability, students will have the opportunity to survey current research and theory in educational psychology and thus develop an informed view of their own foundational beliefs about the learning process.

**PSQF:6203 Tools and External Representations in Learning Processes** (new course, proposed and developed Fall 2014, implemented and taught online Spring 2015)
This course is a rigorous introduction to the fundamentals of thinking and learning with tools. It investigates what it is to think with tools generally and then looks at the relationship between specific tools and specific cognitive activities. Part of the course will seek to address the question: What is the relationship between tools and thought? In attending to this question, it will provide an overview of major theoretical approaches to tools, thinking and learning from sociocultural psychology, educational practice, media studies, cognitive science, and anthropology among others.

The latter part of the course will examine a series of specific tools and critically examine the way said tools shape and structure thought and activity. This examination will survey a range of perspectives on tools: doors, blocks, oral language, cell phones and programming environments among others. Finally, it will ask students to conduct their own small-scale investigation into how a tool shapes thinking and learning, and make an argument relative to a major theoretical perspective.

**PSQF:6281 Cognition and Learning (existing course)**

This course provides an introduction to theoretical perspectives on learning and cognition, such as behaviorism, information processing, socioculturalism, constructivism, situativism, and distributed cognition. We cover topics related to cognition and learning such as the transfer of learning, cognitive development, the mind and brain, development of expertise, affect and cognition, and social contexts of instruction.

**PSQF:6214 Design of Learning Environments (new course, proposed and developed Summer 2014, first online offering slated for Spring 2016)**

This course looks at the design - social, material, technical - of diverse contexts of learning, ranging from school classrooms to museum experiences to online communities. It attends to the ways that learning emerges from the relationship between tools/representations, social dynamics and cognitive processes.

Over the course of a semester-long project, students “design” a technology-enabled learning environment. Students learn to employ contemporary technologies to craft an innovative learning system, either by integrating a technology into a learning environment in a novel way or by shaping their own small tool that augments an existing learning system.

**PSQF:6208 Designing Educational Multimedia OR PSQF 6215 Web-based Learning (existing online courses)**

By choosing one of these courses, the student continues application of learning-science research and principles in a semester-long project instructional project.

**PSQF:6299 MA Project: Internship/Practicum/Portfolio (expanded options)**

The capstone course, which should be the student’s final course before (or in parallel with) comprehensive exams, can be done via one of four different options: an internship, a practicum, a personal development project, or a personal research study. The outcomes of the capstone course are reviewed by a committee of faculty selected by the student in consultation with his or her advisor. This review serves as the final examination. It is cumulative and comprehensive.
3.b. Description of focus areas (6 credit hours)
Given the interdisciplinary nature of the Learning Sciences we have included in our curriculum opportunities for students to broaden their understanding of the Learning Sciences. Students are required to choose a focus area, which would require students to take a minimum of two courses. Currently we have three fully developed strands and a fourth one for which the music education program faculty are considering potential courses. As the Learning Sciences subprogram continues to grow we anticipate inclusion of other relevant focus areas. For example, we would like to begin conversations with faculty in computer science and psychology to add additional strands that would be of interest to students and include curricular breadth to their MA. Current areas and course options include:

Human Development and Motivation focus area
6 Credits chosen from:
- PSQF:4106 Child Development
- PSQF:4111 Human Motivation
- PSQF:4130 Early Adolescent Development
- PSQF:4133 The Adolescent and Young Adult (online)
- PSQF:6206 Advanced Child Development

Technology and Media focus area
6 Credits chosen from:
- PSQF:6208 Designing Educational Multimedia (online)
- PSQF:6215 Web-based Learning (online)
- PSQF:7331 Digital Media and Learning
- PSQF:6216 Online Tools and Utilities (online)
- PSQF:6:211 Universal Design and Accessibility for Online Learning (online)

Measurement and Evaluation focus area
6 Credits chosen from:
- PSQF:4143 Introduction to Statistical Methods (online)
- PSQF:6257 Educational Measurement and Evaluation (online)
- PSQF:6220 Quantitative Educational Research Methods
- PSQF:5165 Introduction to Program and Product Evaluation (online)
- PSQF:6265 Program Evaluation

Music & Cognition focus area (6 credits, under development)
### 3.c. Comparison of current versus proposed course offerings

<table>
<thead>
<tr>
<th>Current Course Listings</th>
<th>Proposed Course Offerings</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQF:6200 Educational Psychology</td>
<td>PSQF:6200 Educational Psychology</td>
</tr>
<tr>
<td>PSQF:4106 Child Development</td>
<td>PSQF:4106 Child Development</td>
</tr>
<tr>
<td>PSQF:4130 Early Adolescent Development</td>
<td>PSQF:4130 Early Adolescent Development</td>
</tr>
<tr>
<td>PSQF:4133 The Adolescent and Young Adult</td>
<td>PSQF:4133 The Adolescent and Young Adult</td>
</tr>
<tr>
<td>PSQF:6205 Design of Instruction</td>
<td>PSQF:6205 Design of Instruction</td>
</tr>
<tr>
<td>PSQF:6206 Advanced Child Development</td>
<td>PSQF:6206 Advanced Child Development</td>
</tr>
<tr>
<td>PSQF:6208 Designing Educational Multimedia</td>
<td>PSQF:6208 Designing Educational Multimedia</td>
</tr>
<tr>
<td>PSQF:6215 Web-based Learning</td>
<td>PSQF:6215 Web-based Learning</td>
</tr>
<tr>
<td>PSQF:6281 Cognitive Theories of Learning</td>
<td>PSQF:6281 Cognitive Theories of Learning</td>
</tr>
<tr>
<td>PSQF:4111 Motivation</td>
<td>PSQF:4111 Motivation</td>
</tr>
<tr>
<td><strong>PSQF:6203 Learning, Technology, and Effective Teaching†</strong></td>
<td><strong>PSQF:6203 Tools and External Representations in Learning Processes</strong></td>
</tr>
<tr>
<td><strong>PSQF:6301 Human Abilities†</strong></td>
<td><strong>PSQF:6204 Foundations of the Learning Sciences</strong></td>
</tr>
</tbody>
</table>

Legend: Outgoing courses highlighted in yellow. New courses highlighted in grey.  
† Courses which are not currently offered due to faculty changes

### 3.d. Comparisons with similar programs at other universities in the state and nation

**Other State and Regent’s Institutions**

There are *no Learning Sciences degree programs* in the state of Iowa. Most colleges have only one educational psychology course and one or two instructional technology courses for their teacher educational (certification) programs. Iowa State University has no Educational Psychology degree program, but does award degrees in Curriculum and Instructional Technology, and an Instructional Design Certificate. Iowa State’s degrees in Curriculum and Instructional Technology are the M.Ed (offered both on campus and on-line), and MS (only offered on campus), and the Ph.D. (on campus). Northern Iowa University does a Learning Sciences graduate degree program. It emphasizes Masters degrees in Instructional Technology and Educational Psychology, both with a teacher-support focus. The major private colleges (Grinnell, Drake, St. Ambrose, Upper Iowa, Luther College, and Cornell College) have teacher education programs but no degrees in educational psychology or instructional technology.

**Sources for Regent’s Institutions:**


University of Northern Iowa, Department of Educational Psychology and Foundations: Course Catalog 2014-2016. Last accessed 8/13/2015 at [http://catalog.uni.edu/collegeofeducation/educationalpsychologyandfoundations/](http://catalog.uni.edu/collegeofeducation/educationalpsychologyandfoundations/)
General Differences between Learning Sciences & Curriculum & Instructional Technology Programs:

<table>
<thead>
<tr>
<th></th>
<th>Learning Sciences</th>
<th>Curriculum &amp; Instructional Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context Focus</strong></td>
<td>Schools, Workplaces, Online Environments &amp; Informal Learning Environments</td>
<td>Schools &amp; School-based Online Environments</td>
</tr>
<tr>
<td><strong>Research Paradigm</strong></td>
<td>Methods from Cognitive Science, Computer Science, Anthropology &amp; Design Research</td>
<td>Methods from Instruction Efficacy Research &amp; Instructional Design Research</td>
</tr>
<tr>
<td><strong>Learning Paradigms</strong></td>
<td>Collaborative computer-supported learning, Technology-guided problem-solving, Cognitive apprenticeship</td>
<td>Interactive tutorials, Programmed instruction, Direct Instruction</td>
</tr>
</tbody>
</table>

Sources for Program Differences:

National Peer Institutions
Learning sciences or related masters programs exist at the following Committee on Institutional Cooperation (CIC) institutions: the University of Wisconsin (Learning Sciences), Indiana University (Learning Sciences), Northwestern University (Learning Sciences), the University of Michigan (Digital Media & Education) and Pennsylvania State University (Learning, Design & Technology).

In addition to those masters programs listed above, other UI Regents-defined peer institutions have learning sciences doctoral programs: the University of California-Los Angeles, Rutgers University, the University of North Carolina and Clemson University.
4) Faculty Availability for Subprogram

- Associate Professor Stephen Alessi, Ph.D. (Educational Psychology, University of Illinois, 1979), has done extensive international teaching and consulting on the design and creation of online and technology intensive courses.

- Assistant Professor, Benjamin DeVane, Ph.D. (Curriculum & Instruction, University of Wisconsin-Madison, 2010) investigates learning in participatory and play-based digital environments.

- Clinical Associate Professor Mitchell Kelly, Ph.D. (Educational Psychology, The University of Iowa, 1995), director of the Office of Graduate Teaching Excellence, is an award winning faculty member who guides graduate students through the process of earning a Graduate Certificate in College Teaching.

- Associate Professor Joyce Moore, Ph.D. (Educational Psychology, Stanford University, 1993), studies learning and problem solving and is co-PI with Dr. Benjamin DeVane on a grant from The National Advanced Driving Simulator on the development of mental models of driver safety systems.

- Associate Professor Kathy Schuh, Ph.D. (Cognitive Science & Instructional Systems Technology, Indiana University at Bloomington, 2000), is coordinator of the Educational Psychology program and the Graduate Certificate in Online Teaching. She studies learning in contemporary learning environments.

- Professor Stewart Ehly, Ph.D (Educational Psychology, University of Texas at Austin, 1975) specializes in school psychology, parent involvement, and psychoeducational interventions. Dr. Ehly’s primary responsibility is to the School Psychology program but his graduate course on motivation will be part of the human development focus area in the Learning Sciences master of arts.

A letter of clearance from Timothy Ansley, DEO of the department of Psychological & Quantitative Foundations is attached with this proposal.
5.a. Future Needs and Commitments

As this proposal is for a change in an existing program, the faculty in the Educational Psychology program will be the primary faculty for teaching courses for the Learning Sciences. The following five faculty have 100% appointments in the Department of Psychological and Quantitative Foundations, specifically in the Educational Psychology program: Steve Alessi, Ben DeVane, Mitch Kelly, Joyce Moore, and Kathy Schuh. The table below includes required courses in our LS curriculum and faculty primary and secondary faculty who may teach those courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Available Instructor 1</th>
<th>Available Instructor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSQF:6204 Foundations of the Learning Sciences</td>
<td>Kathy Schuh</td>
<td>Ben DeVane</td>
</tr>
<tr>
<td>PSQF:6205 Design of Instruction</td>
<td>Ben DeVane</td>
<td>Steve Alessi; Kathy Schuh</td>
</tr>
<tr>
<td>PSQF:6200 Educational Psychology</td>
<td>Kathy Schuh</td>
<td>Joyce Moore</td>
</tr>
<tr>
<td>PSQF:6203 Tools and External Representations in Learning Processes</td>
<td>Ben DeVane</td>
<td>Kathy Schuh; Joyce Moore</td>
</tr>
<tr>
<td>PSQF:6281 Cognition and Learning</td>
<td>Joyce Moore</td>
<td>Kathy Schuh</td>
</tr>
<tr>
<td>PSQF:6214 Design of Learning Environments</td>
<td>Ben DeVane</td>
<td>Steve Alessi</td>
</tr>
<tr>
<td>PSQF:6208 Designing Educational Multimedia</td>
<td>Steve Alessi</td>
<td>Ben DeVane</td>
</tr>
<tr>
<td>PSQF:6215 Web-based Learning</td>
<td>Steve Alessi</td>
<td></td>
</tr>
<tr>
<td>PSQF:6299 MA Project: Internship/Practicum/Portfolio</td>
<td>All Faculty</td>
<td></td>
</tr>
</tbody>
</table>

Additional teaching load for Alessi, DeVane, Kelly, Moore, and Schuh include courses that support our Ph.D. students and a number of service courses that we offer through our program that serve the College of Education.

5b) Admissions Standards and Advising Processes

We anticipate that our admissions standards will not change substantively from those that we presently use for the Ed Psych Master of Arts program, and we anticipate an initial cohort of 15-20 students. Our admissions process will continue as has been in the past. As currently noted on our program website:

Applicants to the M.A. program in educational psychology [to be renamed Learning Sciences] must meet the admission requirements of the Graduate College, including minimum grade-point average. Viable applicants have a verbal score of at least 146 and a quantitative score of at least 149 on the Graduate Record Examination (GRE) General Test; successful applicants usually score higher. International applicants whose first language is not English must submit acceptable scores on the Test of English as a Foreign Language (TOEFL). Teaching experience is desirable but not required.

Application deadline for the fall semester is February 1 with review of applications beginning soon after. Admission decisions are announced approximately six weeks after the application deadlines.
Our admission coordinator, Associate Professor Joyce Moore, our program coordinator, Associate Professor Kathy Schuh, as well as all of our faculty, are available by phone, e-mail, and in person to visit with prospective students as they have questions.

Students apply online; submission of their admission materials is facilitated by the Office of Education Services in the College of Education. Admission packets are reviewed annually, in early February, for admission the following fall semester. During the review by the entire program faculty, accepted students are assigned a faculty advisor from the Learning Sciences program. The student and his or her advisor will together determine the sequence of courses (e.g., 1, 2, or 3 courses per semester depending on full or part-time status) that will best support the student’s success. As an online program, advising will be offered through e-mail, phone, video conference (e.g., Skype; Zoom), and face-to-face if the individual is in Iowa City.

Our faculty share with their advisees an advising form which helps facilitate the advising process (see appendix). Students are also reviewed annually, with a letter of progress sent to each student about their current standing in the program.
6) Faculty Research related to the Proposed Subprogram Change

Associate Professor Stephen Alessi, Ph.D

My main research and development activities relate to learning with computer simulations and models. I’m collaborating with faculty at the University of Bergen in Norway on web-based instruction incorporating models and simulations for teaching management of renewable natural resources (water, forests, animals, agriculture). I’m collaborating with the Millennium Institute in Washington, D.C. (a non-governmental organization) on web-based instruction using models and simulations for teaching government planners about balanced national development (planning which balances economic, social, and environmental considerations). Most recently I’m extending this work to mobile devices (tablets and smart phones) to make simulations more accessible to both students and professionals.

Assistant Professor Benjamin DeVane, Ph.D

My research investigates game-based learning environments that support young people’s understanding of integrated STEM learning. Building on scholarship in the learning sciences, engineering and computing education, and sociocultural learning theory, my research examines how students and learners build understandings of integrated STEM practices through playful collaboration, problem-solving and systems design.

My scholarship mobilizes mixed methods and design research to understand how young people learn about integrated science, computing and engineering in game-enabled classrooms and informal settings. One strand of my research has looked at how young people learn about computational problem-solving, programming and systems design by making and modifying games. A second strand of my research examines how game-based environments can help learners become competent in engineering and science inquiry practices.

Associate Professor Joyce L. Moore, Ph.D

Dr. Moore has a background in education, psychology, and computer science. After receiving a B.S. in Psychology and Computer Science from the University of Pittsburgh, and a Ph.D. in Educational Psychology from Stanford University, Dr. Moore worked for two years as a Postdoctoral Research Scientist at the Learning Technology Center at Vanderbilt University. Combining the interdisciplinary expertise she has acquired, her work involves the issue of how material objects and external symbolic representations shape learning and reasoning. She explores these issues primarily in the context of children’s mathematics and statistics learning.

Associate Professor Kathy Schuh, Ph.D

My research interests include exploring the relationships among epistemology, learning theory, and instructional practice with a primary interest in contemporary views of learning such as constructivism and situated cognition. I conducts research on how children make meaning from the information they encounter in their classrooms and the personal experience and prior learning they bring with them. Through her research she has developed the Student Knowledge Linking Inventory, the Student Knowledge Linking Inventory – Perceptions, and the Survey of Contemporary Learning Environments and used them to explore whether knowledge linking opportunities of upper-elementary students vary given the type of classroom environment. I
have also looked at how these linking opportunities and particular characteristics of the learning environment relate to student achievement.

A second strand of my research is a collaboration with Sam Van Horne and Jae-Eun Russell of ITS. We have conducted a number of studies on how undergraduates use their electronic textbooks, particularly focusing on what strategies the students use and whether they are capitalizing on the key features of the e-textbook to enhance their learning.

**7) Availability of Fellowships, Scholarships, and Opportunities**

In our current Educational Psychology Master’s program students are accepted without the promise of funding. We expect that practice to continue with the advent of the Learning Sciences program. While we do have a few typical funding sources in our program, such as TA positions for PSQF:1075 *Educational Psychology and Measurement*, those positions are generally awarded to our Ph.D. students. In addition, given that the LS program will be online, many of the students may not be eligible for an assistantship because of time or location requirements (e.g., research involving the UI Public Policy Center and National Advanced Driving Simulator, a current funded project, requires the students to be at that location). That said, should opportunities become available for students at a distance to work on research projects, for example, we would encourage our Master’s students to apply for those opportunities.

Students who enroll in this degree program may take the entire program online. Given that, we will submit a proposal for students who do take all of their courses online to be assessed a lower tuition rate (equivalent to in-state rates) and only the technology fee. This would allow the degree to be more competitive and increase the appeal to potential students from out of state and out of the U.S.

**8) Relationship of the MA curriculum in the Learning Sciences to the Ph.D. curriculum in Educational Psychology**

Our MA subprogram and our Ph.D. subprogram are designed to help students master the core content and methods of educational psychology. The doctoral subprogram encourages and helps students acquire the depth of knowledge and sophistication of methodology necessary for original research contributions to the discipline.

Educational psychology is one of the core disciplines that contribute to interdisciplinary scholarship in the learning sciences. There is often significant overlap between introductory graduate courses on learning, cognition and cognitive development in the learning sciences and educational psychology, and some overlap in introductory research methods courses. For example, at peer institutions like the University of Washington, the University of Wisconsin-Madison and Indiana University, there is overlap in the requirements for degrees in Learning Sciences, Educational Psychology and Human Development.

As such, students completing the Learning Sciences master's-level subprogram are prepared to apply the findings of educational psychology's research to the solution of problems in a broad range of educational contexts. Given this, the content areas of the two degrees have much overlap and our Ph.D. students will take content courses along with our MA students, as has
been the relationship between our two degree subprograms in the past. Ph.D students who choose to pursue the MA degree instead of completing the doctoral requirements will be able to do so because of the overlap between the programs of study. Ph.D. students will continue to engage in additional course work and curricular experiences through which they can further advance research contributions in the fields of educational psychology and the learning sciences.
Appendix A: Legacy and History of the Instructional design program

The Instructional Design and Technology has been offered in the department of Psychological & Quantitative Foundations (P&Q) since 1982 and existed through about 2004. The program came into existence in 1964 as Educational Media and then name changed to Instructional Design and Technology in 1976. At its height in P&Q, the program had about 10 faculty members totaling a little over 5 FTEs. Also at its height (and in its best years), the program graduated as many as 8 Ph.D. students and over 30 masters students in a single year, and enrolled over 30 Ph.D. students, a dozen Ed.S. students, and over 50 M.A. students (totaling about 100 graduate students) at one time. It was a very successful program in terms of attracting and graduating students. Due to its large graduate student enrollment, the ID&T program also enabled courses in other programs (primarily educational psychology, education measurement, and evaluation) to maintain good enrollment. Masters and Ed.S. students did, in addition to coursework, a project, a practicum (work experience) and comprehensive exams. Ph.D. students did the same plus a dissertation and a research curriculum to support that work. Through their practicums, ID&T students did projects for faculty and staff throughout the university, including the Colleges of Medicine, Nursing, Dentistry, Business, Engineering, Liberal Arts & Sciences, and of course the College of Education. Some students did practicums in Information Technology Services (ITS). Upon graduation and often as a result of their practicum experiences, many ID&T students obtained positions (staff and faculty) throughout the university. Starting about 1984, as faculty left the program (e.g., health issues, employment outside of academia, retirement) searches were not authorized. The program shrank to only two faculty members by 2004, and it became impossible to sustain a viable program. The remaining two faculty transitioned into the Educational Psychology program.

Since that time we have had many inquiries from across the university and from regional businesses about the need and desire for a program similar to the Instructional Design and Technology program. What is requested are opportunities for their employees to learn about research-based instructional design and implementation of new technologies or potential new hires who have these skills. The Master of Arts in the Learning Sciences is designed to fill that need.
# Appendix B: New Course Syllabi

## 07P:201 – Foundations of the Learning Sciences

<table>
<thead>
<tr>
<th><strong>Course Instructor</strong></th>
<th><strong>Office Hours</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Campus Address:</strong></td>
<td>Wednesday, 2pm-4pm or by appointment;</td>
</tr>
<tr>
<td><strong>Phone:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Email:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Skype:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Course Site</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prerequisites</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Instructor

**Course Description**

This course is an introduction to the Learning Sciences, an interdisciplinary field that focuses on the scientific study of learning, the environments in which learning takes place, and how learning is fostered through learning innovations. In this class we will explore the theoretical and methodological foundations of the field as components of a process to study learning in context. Learning context, in this case, is considered broadly. While it certainly includes environments such as traditional classrooms, it also includes any other venue where learning can and does take place.

**Course Goals/Objectives**

At course completion students should have a deeper understanding of how people learn and how to better design learning environments and innovations to foster that process by drawing on relevant theory and research. Specifically, students will be able to

- critically review and use scholarly work related to the Learning Sciences in class activities, discussions, and projects.
- develop skills for observing learning environments and applying a variety of lenses to that observation so to better understand the learning system.
- work collaboratively to share information about the learning sciences and learning technologies.

**Computer Requirements**

Listed below are the computer requirements applicable to this course:

- **System requirements.** Computer with broadband access
- The latest version of Adobe Reader and Adobe Flash Player must be installed in your computer in order to access the course materials posted on ICON (i.e. Study Guide, video clips). For a **free download** of these applications, visit the Division of Continuing Education Internet Connection Test/Download Page.
• **Need Technical Support?** Contact the Division of Continuing Education technical support staff at tech-support@ce21.continuetolearn.uiowa.edu, or call (319) 335-3925 during regular business hours.

• **Email is the official method of communication for this course.** Students can expect to receive weekly communications from the instructor (via email) **introducing assigned course-work**. Students are expected to check their U. of Iowa email account frequently.

• The course structure described above assumes that students have basic computer skills and are knowledgeable about the various programs and hardware they will need to use during this session (e.g. Microsoft Word). **For information and computer support geared toward distance education students, access:**

• **Student Guide to ICON** - [http://icon.uiowa.edu/support/onlinehelp/students/guide/](http://icon.uiowa.edu/support/onlinehelp/students/guide/)

**Required Materials**
Readings available through ICON

**Course Policies**

*Participation expectations.* It is expect that students in this course will check the ICON course site once weekly for updated assignments and activities. At least one course activity will occur each week, and many weeks have assignments due. Your course activity grade will result from your weekly participation in activities and discussions. Please also check your U of Iowa email account regularly for updated assignments, feedback and information.

*Adaptations and modifications.* Please let me know within the first 2 days of class if you require special adaptations or modifications to any assignment or due date because of special circumstances such as learning disabilities, religious observances, or other appropriate needs.

*Contesting a grade.* If you wish to contest a grade, please send me an e-mail detailing your reason within 48 hours of receiving the grade. This will allow both of us time to think, reflect, and discuss the matter without taking away class time from other students. To contest any grade you must provide a copy of the graded assignment.

*Late work.* All assignments are due at the start of class on the specified due date unless otherwise stated. Late items will be accepted, but with a 20% reduction of possible points for each day that they are late (this includes weekends as well). You can turn late assignments in the ICON dropbox, which will be time stamped. Please send me e-mail if you place a late assignment in the dropbox.

*Plagiarism.* Unless you are otherwise instructed, your work should be entirely your own. Please take care in writing your major assignments; writing in your own words, citing others’ ideas, and quoting text as appropriate. All major assignments will be submitted in paper format and electronic format via the ICON drop box. Work submitted to the drop box will be scanned via Turn-it-in.

*Changes to the syllabus.* I reserve the right to change the syllabus as necessary to ensure adequate student progress. I don't expect this to occur, but if any changes are made, I will notify you via e-mail.
**Other information.** Please be aware of university policy statements regarding academic misconduct, academic accommodations, student complaint procedures, etc. Consult the following websites:

- College policy on student complaints and dispute resolution. *Student Complaint Procedures* available at: [http://www.education.uiowa.edu/dean/policies/student-complaint](http://www.education.uiowa.edu/dean/policies/student-complaint)
- College policy on student academic misconduct (plagiarism and cheating). See *Policy on Student Academic Misconduct* available at: [http://www.education.uiowa.edu/dean/policies/student-academic-misconduct](http://www.education.uiowa.edu/dean/policies/student-academic-misconduct)
- **Student Disability Services:** [http://www.uiowa.edu/~sds/Assisting Students with Disabilities: A Guide for Instructors](http://www.uiowa.edu/~sds/Assisting Students with Disabilities: A Guide for Instructors)
- [http://diversity.uiowa.edu/eod/assisting-students-disabilities-guide-instructors](http://diversity.uiowa.edu/eod/assisting-students-disabilities-guide-instructors)
- This course is given by the College of Education. This means that class policies on matters such as requirements, grading, and sanctions for academic dishonesty are governed by the College of Education. Students wishing to add or drop this course after the official deadline must receive the approval of the Dean of the College of Education. Details of the University policy of cross enrollments may be found at: [http://www.uiowa.edu/~provost/deos/crossenroll.doc](http://www.uiowa.edu/~provost/deos/crossenroll.doc)

## Course Schedule and Assignments

<table>
<thead>
<tr>
<th>Week</th>
<th>Class topic &amp; goal</th>
<th>Readings</th>
<th>Assignments/Activities *</th>
<th>DUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Defining and Observing a Learning System&lt;br&gt;Mining Research for Design Elements: Conditions, Methods, Outcomes, Values&lt;br&gt;<strong>Goal:</strong> Become a critical observer of learning spaces and what goes on in them at a variety of levels.</td>
<td>Reigeluth (1999)&lt;br&gt;JLS U-select research readings&lt;br&gt;Winn (2002)&lt;br&gt;Hall (2000)</td>
<td>Online discussion prompts (CMOV and learning environment criteria)&lt;br&gt;<strong>Submit for evaluation:</strong> Mining research for design elements&lt;br&gt;<strong>Submit for evaluation:</strong> Learning system observation venue</td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Topic</td>
<td>Reading/Research</td>
<td>Due Date</td>
<td>Submission Details</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------</td>
<td>-------------------</td>
<td>------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5</td>
<td>Thinking and Cognition&lt;br&gt;Cognition/Cognitive Architecture&lt;br&gt;Internal and External Representations&lt;br&gt;&lt;br&gt;Goal: Develop basics of cognitive science in terms of typical constructs related to thinking and memory</td>
<td>Newell &amp; Simon (1976), Searle (1980), Norman, 1993 (Ch. 3), Chi &amp; Glaser, 1985 (Ch. 10)</td>
<td>DUE 9/24 at 1pm Central</td>
<td>Online discussion prompts (definition, compare with literature, critique Searle)</td>
</tr>
<tr>
<td>6</td>
<td>Situated, Embodied, and Distributed Cognition&lt;br&gt;Goal: Novice understandings of different dimensions of looking at cognition and knowing that move beyond knowers as information processors.</td>
<td>Greeno (1994), Pea (1993), Wilson (2002), Lave (1984)</td>
<td>DUE 10/1 at 1pm Central</td>
<td>Online discussion prompts (Define and apply three lenses to learning system, response on Dennett)</td>
</tr>
<tr>
<td>7</td>
<td>Culture and Thinking (or Cognition)&lt;br&gt;Goal: Understand what culture is and the role that is has relative to thinking/cognition</td>
<td>Bruner (1996), Gutierrez &amp; Rogoff (2003), Lee, Spencer, &amp; Harpalani (2003), Nasir &amp; Hand (2008)</td>
<td>DUE 10/8 at 1pm Central</td>
<td>Online discussion prompts (culture, reflect on learning systems and culture)</td>
</tr>
<tr>
<td>8</td>
<td>Midterm exam</td>
<td>Take home</td>
<td>DUE 10/22 at 1pm Central</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Tools as Mediators of Learning</td>
<td>Kozulin (2003), Wertsch (1998), diSessa (2001)</td>
<td>DUE 10/29 at 1pm Central</td>
<td>Online discussion prompts (respond to statements, applying mediating and cultural lens)</td>
</tr>
<tr>
<td>10</td>
<td>Learning as a Community/Communities of Practice/Collaboration</td>
<td>Lave (1991), Stahl (2006), Wenger (2005). Communities of</td>
<td>DUE 11/5 at 1pm Central</td>
<td>Online discussion prompts (discussion and apply COP lens to learning system)</td>
</tr>
<tr>
<td></td>
<td>Practice. (checked out) Brown &amp; Campione (1996)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Learner Identity through Learning in Context Discourse and Identity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Online discussion prompts (discussion, personal reflection linked to readings, and apply identity view to learning system)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DUE 11/12 at 1pm Central</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Learning in Activity CHAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Online discussion prompts (discussion of elements, apply CHAT to learning system through an annotated diagram)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DUE 11/19 at 1pm Central</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Learning Technologies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Online activity (small groups, three weeks; develop list, assign, discuss, and create LT powerpoint)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DUE 12/3 at 1pm Central</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Learning Technologies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 Student-selected readings Presentations/Comment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Submit for evaluation: Learning Technologies Powerpoint</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DUE 12/10 at 1pm Central</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Finals week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Submit for evaluation: Learning System Observation and Analysis phase 2 Final paper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DUE 12/15 at 11:59pm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See Activities/Assessments document

**General Criteria for all Documents**

Clear, precise, graduate level writing is expected in all written documents that you submit for this course. If you have concerns about this, please visit with me so we may develop a plan to support you in developing your writing skills. Citations using APA style are expected whenever you draw on another work. In addition, quotation marks and in-text citations are necessary when using direct quotes from a source.

**Grading**

**Evaluation Points**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>%</th>
<th>Points</th>
</tr>
</thead>
</table>
Weekly online activity through discussions and other required interactions | 15%
Mining research for design elements | 5%
Learning System Observation and Analysis Phase 1 | 20%
Learning Technologies Online Slide Presentation | 10%
Midterm exam (open materials) | 25%
Final Paper - Learning System Observation and Analysis Phase 2 | 25%
**Total Points** | **100%**

**Evaluation Scale**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
<th>Grade</th>
<th>Points</th>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 95*-100%</td>
<td>B- 80-82%</td>
<td>D+ 67-69%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A- 90-94%</td>
<td>C+ 77-79%</td>
<td>D 63-66%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B+ 87-89%</td>
<td>C 73-76%</td>
<td>D- 60-62%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B 83-86%</td>
<td>C- 70-72%</td>
<td>F 0-59%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Why such a high lower-boundary for an "A"? It provides me an opportunity to be flexible. At my discretion I can lower the level of a grade boundary, but I will never increase one. Your goal should be to do your best work.

This course is offered through the Division of Psychological and Quantitative Foundations - College of Education
Dr. Timothy Ansley, DEO
361 Lindquist Center
timothy-ansley@uiowa.edu
Appendix C: New Course Syllabi  
PSQF:6203:EXW– Spring 2015 Session  
Tools & External Representations in Cognitive Processes (a.k.a. Tools, Thinking & Learning)

<table>
<thead>
<tr>
<th>Course Instructor</th>
<th>Office Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benjamin DeVane, Ph.D, Assistant Professor</td>
<td>In person: Wednesdays, 2pm – 4pm</td>
</tr>
<tr>
<td>Campus Address:</td>
<td>Online: On Skype: benjamin.devane</td>
</tr>
<tr>
<td>354 Lindquist Ctr</td>
<td></td>
</tr>
<tr>
<td>Iowa City, IA 52242-1100</td>
<td></td>
</tr>
<tr>
<td>Phone: (319) 335 - 6422</td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:benjamin-devane@uiowa.edu">benjamin-devane@uiowa.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

Course Site  
To access the course site, log into Iowa Courses Online (ICON) using your Hawk ID and password.  
http://icon.uiowa.edu/index.shtml

Instructor biography  
I’m Ben. I’m interested broadly in how people learn and interact with digital media in a variety of formal and informal educational settings. Truth be told though, I mainly study learning games. More specifically, my research investigates game-centric approaches to helping people learn about computational thinking and scientific inquiry – we’ll probably read about these things at some point in the course.  
Once upon a time, I helped found the Games, Learning & Society initiative at the University of Wisconsin (as a graduate student). More recently, I taught and researched game development and interaction design at the University of Florida.

Course Descriptions  
This course is a rigorous introduction to the fundamentals of thinking and learning with tools. It investigates what it is to think with tools generally and then looks at the relationship between specific tools and specific cognitive activities. Part of the course will seek to address the question: What is the relationship between tools and thought? In attending to this question, it will provide an overview of major theoretical approaches to tools, thinking and learning from sociocultural psychology, educational practice, media studies, cognitive science, and anthropology among others.

The latter part of the course will examine a series of specific tools and critically examine the way said tools shape and structure thought and activity. This examination will survey a range of perspectives on tools: doors, blocks, oral language, cell phones and programming environments among others. Finally, it will ask students to conduct their own small-scale investigation into how a tool shapes thinking and learning, and make an argument relative to a major theoretical perspective.

Course Goal and Objectives  
By the end of this course, students will be able to:
- Identify and describe in detail major theoretical perspectives on thinking and tool use.

Academic Course Home  
Department of Psychological & Quantitative Foundations, College of Education

Prerequisites  
None
• Analyze in writing scholarly frameworks for understanding the relationship between tools, representations and learning
• Create written arguments, using empirical data, about how a specific tool or representation shapes thinking and learning

Course Structure
This course is being offered over the World Wide Web as a Distance Education offering. Students will login to the course site on ICON to access the discussions forum and all course materials, including: pre-recorded lectures, handouts, assignments, and quizzes. Course materials will support students in the completion of assignments, projects, and examinations. For a detailed explanation of the course work requirements to be mentioned below, see the “Course Work” section of this syllabus.

The course is centered on a small qualitative research paper that is similar in format to a paper proposal to the Annual Meeting of the American Educational Research Association (AERA). This paper involves: a) observation of people learning from, or thinking with, tools; b) analysis of this thinking-in-action using one of the frameworks covered in the course; and c) a strong argument about the relationship between the framework and the data. Students will complete an early first draft of this paper, which will then be subject to constructive peer reading, feedback and critique (supervised by the instructor).

Students will be expected to visit the course site several times a week to:

• Read the Course Readings.
• Review the “Course Content” and get familiarized with all course materials (e.g. assigned readings and assignment requirements).
• View pre-recorded lectures and updates. Short video lectures and updates will be uploaded by the instructor.
• Review the course homepage for any updates related to the course “Events”.
• Submit course assignments to the course instructor via the ICON “Dropbox”. Assignments are due no later than 1:00 P.M. on the dates specified later on this syllabus and on the course “Calendar”.

In addition, and during specific times of the semester, students will visit the course site to:

• Participate in class discussions.
• Download a take-home midterm exam.
• Participate in peer critique discussions.

Technology for the course
Media/System Requirements:
Listed below are the media/system requirements applicable to this course:

• System requirements. Computer with Internet access, preferably broadband wired connections with upload and download speeds of at least 1 Mbps. Although wireless will work it can have delay problems.
• Browser requirements. Firefox or Google Chrome are recommended regardless of operating system. All versions of Internet Explorer have functional difficulties in both ICON and the wiki.
• The latest version of Adobe Reader must be installed in your computer in order to access course materials posted as PDFs. For a free download of this application, visit the Center for Credit Programs Internet Connection Test/Download Page.
  o Once on this page, scroll down to “Test Sample Files/Download Software,” and
- Test the file related to the media player listed above.
- Download media player if needed.
- **Need Technical Support?** Contact the Center for Credit Programs technical support staff at tech-support@www.continuetolearn.uiowa.edu.

Course tools
Review the following course tools and delete any not used. This merely provides a description of tools that instructors may find handy.

**ICON** (Iowa Courses Online) - is the course management system at The University of Iowa powered by Desire2Learn software and is the interactive web space for University of Iowa courses (both face-to-face and online).

**PREZI** - Is a presentation tool that helps people better understand each other. Presentations have been relatively static in the 50 years since the slide was invented, but Prezi is changing that. Prezi lets instructors bring their ideas into one space and see how they relate. Zoom out to see the big picture and zoom in to see details.

**Adobe Connect** - Adobe Connect is an online virtual classroom / meeting space. Connect requires the Flash player be installed on the computer as well as a working microphone and speakers (all hooked to a working sound card). A web cam is optional.

**Hawk ID**
All students enrolled in credit courses at The University of Iowa are assigned a Hawk ID and password. The Hawk ID is the primary authentication requirement for accessing online services and resources, such as course Web sites, downloadable software, student records, e-mail, and library services.

For most authentication purposes, Hawk ID service extends through the academic session following the last enrollment at The University of Iowa. Keep in mind, however, that passwords must be reset every 180 days or they expire.

**Lifetime ISIS access** will remain after a student is no longer enrolled at The University of Iowa so that access to transcripts as well as other selected records that are available online continues.

If a student did not receive notification of his or her Hawk ID and password or if he or she would like help resetting the password, then he or she should call the ITS Help Desk 319-384-HELP (4357), or call The Division of Continuing Education at 1-800-272-6430 and ask to be transferred. Students will need to provide their full name, Hawk ID, and University ID number or Social Security Number.

**Hawk ID Guide** provides more information and allows students to customize and reset their Hawk ID password themselves. To view the Hawk ID Guide, go to http://hawkid.uiowa.edu/.

**Email:**
Email is the official method of communication for this course. Students can expect to receive weekly communications from the instructor (via email) introducing assigned course work and the topics to be presented on the pre-recorded demonstrations. Students are expected to check their university email account several times a week.
Student Support

The course structure mentioned above assumes students have basic computer skills and are knowledgeable of the various programs and hardware they will need to use during this session (e.g., Microsoft Word). For information and computer support geared toward distance education students, access:

- the Student Guide to ICON - http://icon.uiowa.edu/support/onlinehelp/students/guide/

Required Materials

- A collection of articles on reserve through our ICON site: http://icon.uiowa.edu/index.shtml -- then click on Content.
- Access to online journals (e.g., through UI Psychology and Education Resources website: http://guides.lib.uiowa.edu/psyc_educ)

Grading Criteria

Students will be assessed based on their performance in the following items:

<table>
<thead>
<tr>
<th>% of final grade</th>
<th>Assignments (2 – 6% each)</th>
<th>Project</th>
<th>Online Discussions</th>
<th>Midterm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12%</td>
<td>60%</td>
<td>13%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Total: 100%

Final grades will be awarded based on the following ranges:

<table>
<thead>
<tr>
<th>Grade</th>
<th>% Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>&gt; 97</td>
</tr>
<tr>
<td>A</td>
<td>96-94</td>
</tr>
<tr>
<td>A-</td>
<td>93-90</td>
</tr>
<tr>
<td>B+</td>
<td>89-86</td>
</tr>
<tr>
<td>B</td>
<td>85-83</td>
</tr>
<tr>
<td>B-</td>
<td>82-80</td>
</tr>
<tr>
<td>C+</td>
<td>79-76</td>
</tr>
<tr>
<td>C</td>
<td>75-73</td>
</tr>
<tr>
<td>C-</td>
<td>72-70</td>
</tr>
<tr>
<td>D+</td>
<td>69-66</td>
</tr>
<tr>
<td>D</td>
<td>65-63</td>
</tr>
<tr>
<td>D-</td>
<td>62-60</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 59</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 59</td>
</tr>
</tbody>
</table>

Participation

Participation in this course represents a significant part of a student’s final grade. The instructor calculates participation on both the quantity and quality of the posts that are topic driven and meaningful to the development of the class discussion. To earn full participation points students must post at least two substantive messages on two different days of the course week. Some characteristics the instructor considers to be part of excellent discussion contributions are outlined below. The instructor will consider these characteristics when assessing the quality and level of student participation.

- Posts and responses should be thorough and thoughtful. Just posting an "I agree" or "Good ideas" will be considered inadequate. Support statements with examples, experiences, or references. Be brief — keep each post and response to one or two short paragraphs. Keep in mind that fellow learners will be reading and responding to you, too.
• Posts should provide details that explain the main idea. In addition, examples should be provided to support main idea points.
• Posts should be within a range of 75-150 words.
• Make certain that all posts and responses address the question, problem, or situation as presented for discussion.
• Discussions occur when there is dialogue; therefore, students need to build upon the posts and responses of other learners to create discussion threads. Students must make sure to revisit the discussion forum and respond to what other learners have posted to initial responses.
• When relevant, add to the discussion by including prior knowledge, work experiences, references, web sites, resources, etc. (giving credit when appropriate).
• Contributions to the discussions (posts and responses) should be complete and free of grammatical or structural errors.

Netiquette

• Students need to effectively communicate with each and their instructors when working online. Although it may not be intended, tone in communication is often read differently than when it is presented in the form of speech. For tips on "Netiquette" technique, go to: http://www.albion.com/netiquette/

Communication policy

• Provide students a communication policy. That is, how long will it be before you, the instructor, responds to email, phone calls, and so forth? Recommended is 48 hours, except for, perhaps, on weekends.

Student Support

• Provide the students with information regarding how they can receive help, both academic and technical. Students need to know where they can turn when they need help with the course or help in resolving academic issues.

Discussion Participation Rubric:

<table>
<thead>
<tr>
<th></th>
<th>Lack of Participation</th>
<th>Partial Participation</th>
<th>Complete Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Posting</td>
<td>Fails to post 0 points</td>
<td>Post paraphrases what others have said or just says, &quot;I agree...&quot; or &quot;Good idea...&quot; 1 point</td>
<td>Post is original and contributes at least one new idea or example that adds value to the discussion. 2 points</td>
</tr>
<tr>
<td>Quantity of Posting</td>
<td>Fails to post 0 points</td>
<td>Post does not meet the minimum word count 1 point</td>
<td>Post exceeds the minimum word count 2 points</td>
</tr>
<tr>
<td>Timeliness of Posting</td>
<td>Fails to interact with peers in Discussions. Fails to submit at least one initial post early in the session and/or</td>
<td>Submits at least one initial post early in the session, and at least two peer responses close to</td>
<td>Submits one initial post early in the session, two or more thoughtful peer responses early in the session, and more</td>
</tr>
<tr>
<td>Requirement</td>
<td>0 point</td>
<td>1 point</td>
<td>2 points</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>Fails to submit at least two peer responses close to the end of the session.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spelling and grammar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submits posts that are incomplete sentences with incorrect grammar and spelling errors.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrates knowledge and understanding of content</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post(s) and responses show little evidence of knowledge and understanding of course content.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generates learning within the community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posts fail to elicit responses and reflections from other learners and/or responses fail to build upon the ideas of other learners to take the discussion deeper.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Possible Points:** 15 points

**Course Work**

Online discussions, a midterm exam, a paper proposal, a first draft of the paper proposal, peer critique and a final draft of a paper are all part of the required course work for this course; each assignment is briefly described below:

**Assignment #1:**

*Tools, Learning & Life:* In 300 words, describe a tool that has had an impact on learning in your life. It could be a tool used in formal learning settings (schools) or informal learning settings (home, work). Who introduced you to this tool? How did it shape your thinking and action?

**Assignment #2:**
List of Tools. Draw up a list of tools for thinking that you might want to investigate for your class project. Why do you think these tools are interesting? In what context are the tools used?

Project Overview:
The course is centered on a small qualitative research paper that is similar in format to a paper proposal to the Annual Meeting of the American Educational Research Association (AERA). This paper involves: a) observation of people learning from, or thinking with, tools; b) analysis of this thinking-in-action using one of the frameworks covered in the course; and c) a strong argument about the relationship between the framework and the data. Students will complete an early first draft of this paper, which will then be subject to constructive peer reading, feedback and critique (supervised by the instructor).
The final paper will have the following elements and structure: 1. Objectives or purposes; 2. Perspective(s) or theoretical framework; 3. Methods, techniques, or modes of inquiry; 4. Data sources, evidence, objects, or materials; 5. Results and/or substantiated conclusions or warrants for arguments/point of view; 6. Scientific or scholarly significance of the study or work. More information about this structure can be found on the ICON assignment listing and the AERA 2015 call for proposals on the ICON site.

Project Part #1: Proposal
The first component of the project is a 600 word proposal that describes the project’s objectives, anticipated theoretical frameworks and sources/context of data. It will describe arrangements that have already been made to observe a person or persons thinking-in-action with a tool.

Project Part #2:
The second component of the project are comprehensive notes with preliminary themes identified from a single project observation.

Project Part #3:
The third component of the project is a full draft of the project paper, due at a time for which students have been selected. The full draft will be 2000 words, references and figures excluded.

Project Part #4:
The final component of the project is a final, revised draft of the project paper that incorporates instructor and peer feedback. The final draft will be 2000 words and have the corresponding elements listed above.

Online Discussions and Activities:
Students will participate of weekly online discussions. Discussions will evolve out of guide questions posted by the course instructor and/or will serve as a forum to critique projects submitted by class member.

Assignment Format

<table>
<thead>
<tr>
<th>All assignments are to be typed and format as follows:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Double-spaced with one-inch margins</td>
</tr>
<tr>
<td>• 12 point font size</td>
</tr>
<tr>
<td>• Page numbers added</td>
</tr>
</tbody>
</table>

Detail instructions and requirements for each assignment will be made available on the course site; ICON > Content

Due Dates & Missed Deadlines

<table>
<thead>
<tr>
<th>All assignments and projects are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Due no later than 1:00 P.M. on the dates indicated in the syllabus.</td>
</tr>
<tr>
<td>• To be submitted via the ICON Dropbox.</td>
</tr>
</tbody>
</table>

Absent instructor’s approval, late assignments will not be accepted and the student will receive a 0 for that assignment.
Student Rights

All students have specific rights and responsibilities. Students have the right to adjudication of any complaints they have about classroom activities or instructor actions. Information on these procedures is available in the College’s (CLAS) Student Academic Handbook. Students also have the right to expect a classroom environment that enables them to learn, including modifications if they have a disability.

Academic Fraud

All forms of plagiarism and any other activities that result in a student presenting work that is not his or her own are academic fraud. All academic fraud is reported first to the departmental DEO and then to the Associate Dean for Academic Programs and Services. See Academic Fraud at http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml for the complete policy. Students also need to be notified if tools such as Turn It In, often used to curb plagiarism, is used in the course.

Courtesy to others

Students are expected to be courteous to all others using they communicate with within the course or via email, cell phone and so forth. For tips on “Netiquette” technique, go to: http://www.albion.com/netiquette

Making a Suggestion or a Complaint

Students have the right to make suggestions or complaints and should first visit with the instructor, and next with the departmental DEO, X. All complaints must be made as soon as possible. For more information visit, Student Complaints at http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5

Academic Accommodations

Under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, instructors must provide reasonable academic accommodations for qualified students with disabilities. Students seeking academic accommodations first register with Student Disability Services and meet with a counselor in that office who reviews documentation and determines eligibility for services. Students approved for accommodations arrange to meet privately with course instructors. Visit Student Disability Services at http://www.uiowa.edu/~sds/ or call 319-335-1462.

Understanding Sexual Harassment

Sexual harassment is reprehensible and will not be tolerated by the University. It subverts the mission of the University and threatens the well-being of students, faculty, and staff. Visit this site - http://www.sexualharassment.uiowa.edu/ - for definitions, assistance, and the full University policy.

Course Calendar

Assigned Readings & Materials - Legend

- **TX** = “My Textbook” (Edition?) by X, Company, Year.
- **ICON** = these course materials can be found on the course site under “Content”

<p>| Week 1: |</p>
<table>
<thead>
<tr>
<th>Week 1:</th>
<th>Topic 1: Why Tools?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Assigned Readings:</strong></td>
</tr>
<tr>
<td>Introduction; Reading Response</td>
<td>ICON - Kline &amp; Pinch, Levy &amp; Murnane, Scardamalia &amp; Bereiter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 2:</th>
<th>Topic 2: Cognition and Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Assigned Readings:</strong></td>
</tr>
<tr>
<td><strong>Assignment:</strong> Tools, learning and life</td>
<td>ICON – Donald, Shaffer &amp; Kaput, Nardi,</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 3:</th>
<th>Topic 3: Do Tools Shape Thought?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Assigned Readings:</strong></td>
</tr>
<tr>
<td><strong>Assignment:</strong> List of potential tools; Reading Response</td>
<td>ICON - Vygotsky, Norman, Lave</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 4:</th>
<th>Topic 4: Intention, Tools and Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Assigned Readings:</strong></td>
</tr>
<tr>
<td>Reading Response</td>
<td>ICON - Papert, Schon, McLuhan</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 5:</th>
<th>Topic 5: Tools and Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Assigned Readings:</strong></td>
</tr>
<tr>
<td><strong>Project:</strong> Project Proposal Due, Reading Response</td>
<td>ICON - Lanier, Johnson, Illich</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 6:</th>
<th>Topic 6: School as Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Assigned Readings:</strong></td>
</tr>
<tr>
<td><strong>Project:</strong> Reading Response</td>
<td>ICON - Dewey, Cuban, Tyack</td>
</tr>
<tr>
<td>Week 7:</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Topic 7:</strong> Learning between person and world</td>
</tr>
<tr>
<td>Reading response, Observation notes</td>
<td>Assigned Readings:</td>
</tr>
<tr>
<td></td>
<td>• ICON – Hutchins, Disessa, Chi</td>
</tr>
<tr>
<td></td>
<td>Additional Resources:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 8:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Topic 8:</strong> TAKE HOME MIDTERM DUE</td>
</tr>
<tr>
<td><strong>Take Home Midterm</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 9:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Topic 9:</strong> Case: Writing as tool</td>
</tr>
<tr>
<td>Observation notes</td>
<td>Assigned Readings:</td>
</tr>
<tr>
<td></td>
<td>• ICON - Ong, Lyman, Scribner &amp; Cole</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 10:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Topic 10:</strong> Case: Mathematical Tools &amp; Representations</td>
</tr>
<tr>
<td>Reading response</td>
<td>Assigned Readings:</td>
</tr>
<tr>
<td></td>
<td>• ICON - Shaffer &amp; Kaput, Lemke, Hall</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 11:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
<td><strong>Topic 11:</strong> Peer Feedback</td>
</tr>
<tr>
<td>Reading response</td>
<td>Assigned Readings:</td>
</tr>
<tr>
<td>Paper Draft due (select students)</td>
<td>• ICON – Student Papers</td>
</tr>
<tr>
<td>Week 12:</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Due this week:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Project:</strong> Rough Draft due (select students); Peer Critique due (other students)</td>
<td></td>
</tr>
<tr>
<td><strong>Topic 12 Peer Feedback</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Assigned Readings:</strong></td>
<td></td>
</tr>
<tr>
<td>- ICON – Student Papers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 13:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
</tr>
<tr>
<td><strong>Project:</strong> Paper Draft due (select students); Peer Critique due (other students)</td>
</tr>
<tr>
<td><strong>Topic 13: Peer Feedback</strong></td>
</tr>
<tr>
<td><strong>Assigned Readings:</strong></td>
</tr>
<tr>
<td>- ICON - Student Papers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 14:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
</tr>
<tr>
<td><strong>Project:</strong> Peer Critique due (other students)</td>
</tr>
<tr>
<td><strong>Topic 15: Case Study: New Literacies</strong></td>
</tr>
<tr>
<td><strong>Assigned Readings:</strong></td>
</tr>
<tr>
<td>ICON – Shaffer, Gee, Leander</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 15: FINALS WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due this week:</strong></td>
</tr>
<tr>
<td><strong>Final Paper Due</strong></td>
</tr>
<tr>
<td><strong>FINAL PAPER DUE</strong></td>
</tr>
</tbody>
</table>
Appendix D: New Course Syllabi

PSQF:6214:EXW
Design of Learning Environments: Theory, Practice & Method

<table>
<thead>
<tr>
<th>Course Instructor</th>
<th>Office Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benjamin DeVane, Ph.D, Assistant Professor</td>
<td>In person: Wednesdays, 2pm – 4pm</td>
</tr>
<tr>
<td></td>
<td>Online: On Skype: benjamin.devane</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Campus Address:</th>
<th>Course Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>354 Lindquist Ctr</td>
<td>To access the course site, log into Iowa Courses Online (ICON) using your Hawk ID and password. <a href="http://icon.uiowa.edu/index.shtml">http://icon.uiowa.edu/index.shtml</a></td>
</tr>
<tr>
<td>Iowa City, IA 52242-1100</td>
<td></td>
</tr>
<tr>
<td>Phone: (319) 335 - 6422</td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:benjamin-devane@uiowa.edu">benjamin-devane@uiowa.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Course Home</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Psychological &amp; Quantitative Foundations, College of Education</td>
<td>None</td>
</tr>
</tbody>
</table>

Instructor biography

I’m Ben. I’m an assistant professor in Psychological & Quantitative Foundations whose area of focus is in the learning sciences. I’m interested broadly in how people learn and interact with digital media in a variety of formal and informal educational settings. Truth be told though, I mainly study learning games. More specifically, my research investigates game-centric approaches to helping people learn about computational thinking and scientific inquiry – we’ll probably read about these things at some point in the course.

Once upon a time, I helped found the Games, Learning & Society initiative at the University of Wisconsin (as a graduate student). More recently, I taught and researched game development and interaction design at the University of Florida.

Course Descriptions

This course explores the theory, practice and research method of the design of learning environments. It will emphasize technology-based learning environments, but its understanding of technology is broadly conceived. A major component of coursework will be a semester-long project to design or evaluate the design of a learning environment, technology-based or otherwise.

We will examine how a number of forces shape the design of a learning environment, asking:
- How is a particular learning environment shapes by underlying theories of learning?
- What intersecting design variables shape the nature and function of a learning environment?
- How do learning environments employ technologies, tools or artifacts toward different goals?
- How do the roles that teachers, facilitators, students and learners shape how and what they learn?

This course approaches the design of learning environments from the perspective of an educational field called the learning sciences. The learning sciences is an interdisciplinary field that emerged in the late 1980s from the dialogue of scholars in education, computer science, linguistics, cognitive science and anthropology. When learning scientists look at the design of learning environments, they look at the ways technologies, artifacts, resources and participant structures come together to mold how and what we learn.

Course Goal and Objectives
By the end of this course, students will be able to:

- Identify and describe in detail major theories about the design of learning environments.
- Analyze and articulate how design variables shape a learning environment.
- Employ practical and research methods to evaluate the design and application of learning environments.

Course Structure
This course is being offered over the World Wide Web as a Distance Education offering. Students will login to the course site on ICON to access the discussions forum and all course materials, including: pre-recorded lectures, handouts, assignments, and quizzes. Course materials will support students in the completion of assignments, projects, and examinations. For a detailed explanation of the course work requirements to be mentioned below, see the “Course Work” section of this syllabus.

Students will be expected to visit the course site several times a week to:

- Read the Course Readings.
- Review the “Course Content” and get familiarized with all course materials (e.g. assigned readings and assignment requirements).
- View pre-recorded lectures and updates. Short video lectures and updates will be uploaded by the instructor.
- Review the course homepage for any updates related to the course “Events”.
- Submit course assignments to the course instructor via the ICON “Dropbox”. Assignments are due no later than 1:00 P.M. on the dates specified later on this syllabus and on the course “Calendar”.

In addition, and during specific times of the semester, students will visit the course site to:

- Post and comment on reading reflections
- Download a take-home midterm exam.
- Upload major course assignments
- Download readings and watch videos
Technology for the course

Media/System Requirements:
Listed below are the media/system requirements applicable to this course:

- **System requirements.** Computer with Internet access, preferably broadband wired connections with upload and download speeds of at least 1 Mbps. Although wireless will work it can have delay problems.

- **Browser requirements.** Firefox or Google Chrome are recommended regardless of operating system. All versions of Internet Explorer have functional difficulties in both ICON and the wiki.

- **The latest version of Adobe Reader** must be installed in your computer in order to access course materials posted as PDFs. For a **free download** of this application, visit the Center for Credit Programs [Internet Connection Test/Download Page](http://www.continuetolearn.uiowa.edu).
  - Once on this page, scroll down to “Test Sample Files/Download Software,” and
  - Test the file related to the media player listed above.
  - Download media player if needed.

- **Need Technical Support?** Contact the Center for Credit Programs technical support staff at tech-support@www.continuetolearn.uiowa.edu.

Course tools
Review the following course tools and delete any not used. This merely provides a description of tools that instructors may find handy.

**ICON** (Iowa Courses Online) - is the course management system at The University of Iowa powered by Desire2Learn software and is the interactive web space for University of Iowa courses (both face-to-face and online).

**PREZI** - Is a presentation tool that helps people better understand each other. Presentations have been relatively static in the 50 years since the slide was invented, but Prezi is changing that. Prezi lets instructors bring their ideas into one space and see how they relate. Zoom out to see the big picture and zoom in to see details.

**Adobe Connect** - Adobe Connect is an online virtual classroom / meeting space. Connect requires the Flash player be installed on the computer as well as a working microphone and speakers (all hooked to a working sound card). A web cam is optional.

**Hawk ID**
All students enrolled in credit courses at The University of Iowa are assigned a Hawk ID and password. The Hawk ID is the primary authentication requirement for accessing online services and resources, such as course Web sites, downloadable software, student records, e-mail, and library services.
For most authentication purposes, Hawk ID service extends through the academic session following the last enrollment at The University of Iowa. Keep in mind, however, that **passwords must be reset every 180 days or they expire**.

**Lifetime ISIS access** will remain after a student is no longer enrolled at The University of Iowa so that access to transcripts as well as other selected records that are available online continues.

If a student did not receive notification of his or her Hawk ID and password or if he or she would like help resetting the password, then he or she should call the ITS Help Desk 319-384-HELP (4357), or call The Division of Continuing Education at 1-800-272-6430 and ask to be transferred. Students will need to provide their full name, Hawk ID, and University ID number or Social Security Number.

**Hawk ID Guide** provides more information and allows students to customize and reset their Hawk ID password themselves. To view the Hawk ID Guide, go to [http://hawkid.uiowa.edu/](http://hawkid.uiowa.edu/).

**Email:**

**Email is the official method of communication for this course.** Students can expect to receive weekly communications from the instructor (via email) introducing assigned course work and the topics to be presented on the pre-recorded demonstrations. Students are expected to check their university email account several times a week.

**Student Support**

The course structure mentioned above assumes students have basic computer skills and are knowledgeable of the various programs and hardware they will need to use during this session (e.g. Microsoft Word). For information and computer support geared toward distance education students, access:

- the Continuing Education Technical Support page - [http://www.continuetolearn.uiowa.edu/tech-support/index.html](http://www.continuetolearn.uiowa.edu/tech-support/index.html)
- the Student Guide to ICON - [http://icon.uiowa.edu/support/onlinehelp/students/guide/](http://icon.uiowa.edu/support/onlinehelp/students/guide/)

**Required Materials**

- A collection of articles on reserve through our ICON site: [http://icon.uiowa.edu/index.shtml](http://icon.uiowa.edu/index.shtml) -- then click on Content.
- Access to online journals (e.g., through UI Psychology and Education Resources website: [http://guides.lib.uiowa.edu/psyc EDUC](http://guides.lib.uiowa.edu/psyc EDUC))

**Grading Criteria**

Students will be assessed based on their performance in the following items:
% of final grade

- Analyze a learning problem 10%
- Project proposal 10%
- Reading Reflections & Online Discussions 20%
- Midterm 20%
- Learn & examine a learning technology or process 10%
- FINAL - Design or evaluate a learning environment

Total: 100%

Final grades will be awarded based on the following ranges:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>&gt; 97</td>
</tr>
<tr>
<td>A</td>
<td>96-94</td>
</tr>
<tr>
<td>A-</td>
<td>93-90</td>
</tr>
<tr>
<td>B+</td>
<td>89-86</td>
</tr>
<tr>
<td>B</td>
<td>85-83</td>
</tr>
<tr>
<td>B-</td>
<td>82-80</td>
</tr>
<tr>
<td>C+</td>
<td>79-76</td>
</tr>
<tr>
<td>C</td>
<td>75-73</td>
</tr>
<tr>
<td>C-</td>
<td>72-70</td>
</tr>
<tr>
<td>D+</td>
<td>69-66</td>
</tr>
<tr>
<td>D</td>
<td>65-63</td>
</tr>
<tr>
<td>D-</td>
<td>62-60</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 59</td>
</tr>
</tbody>
</table>

Participation

Participation in this course represents a significant part of a student’s final grade. The instructor calculates participation on both the quantity and quality of the posts that are topic driven and meaningful to the development of the class discussion. To earn full participation points students must post at least two substantive messages on two different days of the course week.

Some characteristics the instructor considers to be part of excellent discussion contributions are outlined below. The instructor will consider these characteristics when assessing the quality and level of student participation.

- Posts and responses should be thorough and thoughtful. Just posting an "I agree" or "Good ideas" will be considered inadequate. Support statements with examples, experiences, or references. Be brief — keep each post and response to one or two short paragraphs. Keep in mind that fellow learners will be reading and responding to you, too.
- Posts should provide details that explain the main idea. In addition, examples should be provided to support main idea points.
- Posts should be within a range of 75-150 words.
- Make certain that all posts and responses address the question, problem, or situation as presented for discussion.
- Discussions occur when there is dialogue; therefore, students need to build upon the posts and responses of other learners to create discussion threads. Students must make sure to revisit the discussion forum and respond to what other learners have posted to initial responses.
- When relevant, add to the discussion by including prior knowledge, work experiences, references, web sites, resources, etc. (giving credit when appropriate).
• Contributions to the discussions (posts and responses) should be complete and free of grammatical or structural errors.

Netiquette

• Students need to effectively communicate with each and their instructors when working online. Although it may not be intended, tone in communication is often read differently than when it is presented in the form of speech. For tips on "Netiquette" technique, go to: http://www.albion.com/netiquette/

Communication policy

• Provide students a communication policy. That is, how long will it be before you, the instructor, responds to email, phone calls, and so forth? Recommended is 48 hours, except for, perhaps, on weekends.

Student Support

• Provide the students with information regarding how they can receive help, both academic and technical. Students need to know where they can turn when they need help with the course or help in resolving academic issues.

Discussion Participation Rubric:

<table>
<thead>
<tr>
<th></th>
<th>Lack of Participation</th>
<th>Partial Participation</th>
<th>Complete Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality of Posting</strong></td>
<td>Fails to post</td>
<td>Post paraphrases what others have said or just says, &quot;I agree...&quot; or &quot;Good idea...&quot;</td>
<td>Post is original and contributes at least one new idea or example that adds value to the discussion.</td>
</tr>
<tr>
<td></td>
<td>0 points</td>
<td>1 point</td>
<td>2 points</td>
</tr>
<tr>
<td><strong>Quantity of Posting</strong></td>
<td>Fails to post</td>
<td>Post does not meet the minimum word count</td>
<td>Post exceeds the minimum word count</td>
</tr>
<tr>
<td></td>
<td>0 points</td>
<td>1 point</td>
<td>2 points</td>
</tr>
<tr>
<td><strong>Timeliness of Posting</strong></td>
<td>Fails to interact with peers in Discussions. Fails to submit at least one initial post early in the session and/or</td>
<td>Submits at least one initial post early in the session, and at least two peer responses close to</td>
<td>Submits one initial post early in the session, two or more thoughtful peer responses early in the session, and more than</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fails to submit at least two peer responses close to the end of the session.</td>
<td>the end of the session.</td>
<td>two peer responses close to the end of the session.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>0 point</td>
<td>1 point</td>
<td>2 points</td>
<td></td>
</tr>
</tbody>
</table>

**Spelling and grammar**

<table>
<thead>
<tr>
<th>Submits posts that are incomplete sentences with incorrect grammar and spelling errors.</th>
<th>Submits posts that are complete sentences with either some incorrect grammar or spelling errors, but not both type of errors.</th>
<th>Submits posts that contain grammatically correct sentences without any spelling errors.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 point</td>
<td>2 points</td>
<td>3 points</td>
</tr>
</tbody>
</table>

**Demonstrates knowledge and understanding of content**

<table>
<thead>
<tr>
<th>Post(s) and responses show little evidence of knowledge and understanding of course content.</th>
<th>Post(s) and responses show evidence of knowledge and understanding of course content.</th>
<th>Post(s) and responses show evidence of knowledge and understanding of course content and include other resources that extend the learning of the community.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 point</td>
<td>2 points</td>
<td>3 points</td>
</tr>
</tbody>
</table>

**Generates learning within the community**

<table>
<thead>
<tr>
<th>Posts fail to elicit responses and reflections from other learners and/or responses fail to build upon the ideas of other learners to take the discussion deeper.</th>
<th>Posts elicit responses and reflections from other learners and responses build upon the ideas of other learners to take the discussion deeper.</th>
<th>Posts elicit responses and reflections from other learners and responses build upon and integrate multiple views from other learners to take the discussion deeper.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 point</td>
<td>2 points</td>
<td>3 points</td>
</tr>
</tbody>
</table>

**Total Possible Points:** 15 points

**Course Work**

Online discussions, a midterm exam, a paper proposal, a first draft of the paper proposal, peer critique and a final draft of a paper are all part of the required course work for this course; each assignment is briefly described below:

**Project deliverable #1:**
Analyze a learning environment design problem (10% of grade): In three-four double-spaced pages, identify a problem related to the design of a learning environment. You may draw upon your past experiences in a) learning environments; b) a problem presented in the scholarly literature; or c) new observations that you conduct for the purposes of this class.

For the purposes of this class, the most generative problem analysis will focus on learner engagement, collaborative learning, inquiry learning with technology, the design of tools and environments, or inquiry-based learning.

Project proposal (deliverable #2):

Project Proposal (10% of grade): You will include in your project proposal (2-3 pages double-spaced) the following topics: a) how your project relates to your problem analysis; b) the overall goal of your project, and whether your will be designing or evaluating a learning environment; c) the learning or design theory that your design is based on; d) the domain that your design addresses; e) the design problem of the learning environment and how your project will address (through design) or better understand (through evaluative analysis) this problem.

Project deliverable #2:

Learn about and examine a new learning technology or learning environment process (10 % of grade): All students should learn about a) a new learning technology (NetLogo, Trailblazer, IPRO, Squeak, Second Life, ARIS, etc.); OR b) a new learning environment process (e.g. guided inquiry, technology-based formative feedback, collaboration scripting, learning-through-making, learning-through-design, etc.). This learning technology or process should ideally be related to your proposed project.

Describe how your technology or process enables or constrains different modes of learning in an environment. Explain how you’ve developed proficiency with this technology.

Project deliverable #3 (FINAL):

Design or evaluate a technology-based learning environment (30% of grade): Students have two options here:

- Design a learning environment. Prepare a design document for a learning environment. The document should address:
  - The goals of the learning environments – What knowledgeable practice or learning domain do you with to support?
  - Learning processes and environment – What activities will learners undertake, what tools will they use, and what artifacts will learners produce? What is the time frame and space in which the learning environment will be situated?
  - Learners – Who are your learners, what needs do they have, and how are you addressing them in your design?
  - Learning theories – How does your learning environment design draw on a theory or theories of learning? Why are they appropriate?
• Assessment – What type of evidence would your draw on to assess the efficacy of the learning environment? How is this assessment aligned with a theory of learning?

• References in APA format

• Observe and evaluate a novel or forward-looking learning environment. Prepare a scholarly analysis that identifies two-to-four major findings about a learning environment.

• The goals of the learning environments – What knowledgeable practice or learning domain does it support?

• Learning processes and environment – What activities do learners undertake, what tools will they use, and what artifacts will learners produce? What is the time frame and space in which the learning environment is situated?

• Learners – Who are the learners, what needs do they have, and how does the design of the learning environment support or constrain their learning?

• Learning theories – How does the learning environment design draw on a theory or theories of learning? Why is it appropriate?

• Assessment – How is evidence used to assess the efficacy of the learning environment? How is this assessment aligned/misaligned with a theory of learning?

• References in APA format

**Online Discussions and Reading Reflections:**

Students will participate in weekly online discussions. Discussions will evolve out of guide questions posted by the course instructor and/or will serve as a forum to critique projects submitted by class members.

<table>
<thead>
<tr>
<th>Assignment Format</th>
<th>Due Dates &amp; Missed Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>All assignments are to be typed and format as follows:</td>
<td>All assignments and projects are:</td>
</tr>
<tr>
<td>• Double-spaced with one-inch margins</td>
<td>• Due no later than 1:00 P.M. on the dates indicated in the syllabus.</td>
</tr>
<tr>
<td>• 12 point font size</td>
<td>• To be submitted via the ICON Dropbox.</td>
</tr>
<tr>
<td>• Page numbers added</td>
<td>Absent instructor’s approval, late assignments will not be accepted and the student will receive a 0 for that assignment.</td>
</tr>
</tbody>
</table>

**Student Rights**

All students have specific rights and responsibilities. Students have the right to adjudication of any complaints they have about classroom activities or instructor actions. Information on these procedures
is available in the College’s (CLAS) Student Academic Handbook. Students also have the right to expect a classroom environment that enables them to learn, including modifications if they have a disability.

**Academic Fraud**
All forms of plagiarism and any other activities that result in a student presenting work that is not his or her own are academic fraud. All academic fraud is reported first to the departmental DEO and then to the Associate Dean for Academic Programs and Services. See Academic Fraud at [http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml](http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml) for the complete policy. Turn It In, often used to curb plagiarism, is used in the course.

**Courtesy to others**
Students are expected to be courteous to all others using they communicate with within the course or via email, cell phone and so forth. For tips on "Netiquette" technique, go to: [http://www.albion.com/netiquette](http://www.albion.com/netiquette)

**Making a Suggestion or a Complaint**
Students have the right to make suggestions or complaints and should first visit with the instructor, and next with the departmental DEO, Dr. Tim Ansley. All complaints must be made as soon as possible. For more information visit, Student Complaints at [http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5](http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5)

**Academic Accommodations**
Under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, instructors must provide reasonable academic accommodations for qualified students with disabilities. Students seeking academic accommodations first register with Student Disability Services and meet with a counselor in that office who reviews documentation and determines eligibility for services. Students approved for accommodations arrange to meet privately with course instructors. Visit Student Disability Services at [http://www.uiowa.edu/~sds/](http://www.uiowa.edu/~sds/) or call 319-335-1462.

**Understanding Sexual Harassment**
Sexual harassment is reprehensible and will not be tolerated by the University. It subverts the mission of the University and threatens the well-being of students, faculty, and staff. Visit this site - [http://www.sexualharassment.uiowa.edu/](http://www.sexualharassment.uiowa.edu/) - for definitions, assistance, and the full University policy.
## Course Calendar

### Assigned Readings & Materials - Legend

- **TX** = “My Textbook” (Edition?) by X, Company, Year.
- **ICON** = these course materials can be found on the course site under “Content”.

### Week 1:

**Due this week:** Introduction; Reading Reflection

**Topic 1: Theories of learning & learning environments**

**Assigned Readings:**
- ICON – Bransford, Brown & Cocking (2000, Ch. 6); Gee, 2005; Greeno, 2006

### Week 2:

**Due this week:** Reading Reflection

**Topic 2: Constructionism**

**Assigned Readings:**
- ICON – Papert (1996); Kafai (2006); Wilensky & Reismann (2006),

### Week 3:

**Due this week:** Reading Reflection

**Topic 3: Problem-solving and scaffolding**

**Assigned Readings:**
- ICON – Hmelo-Silver (2004); Putambeker & Hubscher (2005); Brush & Saye (2008);

### Week 4:

**Due this week:** Learning problem analysis, Reading Reflection

**Topic 4: Knowledge-building and inquiry**

**Assigned Readings:**
- ICON – Scardamalia & Bereiter (2006); Linn et al. (2006); Lui & Slotta (2014)

### Week 5:

**Due this week:**

**Topic 5: Technology support for scaffolding**
| Week 6: | Topic 6: *Computer-supported collaborative learning*  
|Due this week:  
Reading Reflection | Assigned Readings:  
| Week 7: | Topic 7: *Games and Simulations in LEs*  
|Due this week:  
Reading Reflection | Assigned Readings:  
- ICON – Suthers (2006); Dillenbourg & Evans (2011); Hesse et al. (2013)  
|Additional Resources:  
| Week 8: | Topic 8: *TAKE HOME MIDTERM DUE*  
|Due this week:  
Take Home Midterm | |
| Week 9: | Topic 9: *Teachers and Curricula in Learning Environments*  
|Due this week:  
Reading Reflection | Assigned Readings:  
- ICON – Putambeker et al. (2007); Ertmer et al. (2012); Fishman et al (2013a) |
| Week 10: | Topic 10: *Design-based Implementation Research*  
|Due this week:  
Reading Reflection | Assigned Readings: |
<table>
<thead>
<tr>
<th>Week 11:</th>
<th>Topic 11: Assessing and evaluating LEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due this week:</td>
<td>Assigned Readings:</td>
</tr>
<tr>
<td>New technology/process</td>
<td>ICON – van Aalst &amp; Chan (2007); Clark-Midura &amp; Dede (2010); Ruiz-Primo et al. (2001)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 12:</th>
<th>Topic 12 Participation, scripting and collaborative learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due this week:</td>
<td>Assigned Readings:</td>
</tr>
<tr>
<td>Reading Reflection</td>
<td>ICON – Student Papers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 13:</th>
<th>Topic 13: Online learning environments &amp; virtual worlds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due this week:</td>
<td>Assigned Readings:</td>
</tr>
<tr>
<td>Reading Reflection</td>
<td>ICON – Slotta (2004); Barab et al. (2005); Kafai &amp; Fields (2009)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 14:</th>
<th>Topic 15: Learning in museums &amp; informal environments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due this week:</td>
<td>Assigned Readings:</td>
</tr>
<tr>
<td>Reading Reflection</td>
<td>ICON – Banks et al. (2007); Yoon et al (2013); Falk &amp; Storksdieck (2010)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 15: FINALS WEEK</th>
<th>FINAL DESIGN/EVALUATION PAPER DUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due this week:</td>
<td>Final Paper Due</td>
</tr>
</tbody>
</table>
Masters Program in the Learning Sciences
Advising Form
(30 credit hours)

Name: ____________________  Semester started: ____________________
e-mail: ____________________  Target completion: ____________________

semester  CH  Course number & Title

Required Courses: (24 credits)

________  __ PSQF:6204 Foundations of the Learning Sciences
________  __ PSQF:6200 Educational Psychology *
________  __ PSQF:6205 Design of Instruction
________  __ PSQF:6203 Tools and External Representations in Learning Processes
________  __ PSQF:6281 Cognitive Theories of Learning
________  __ PSQF: 6214 Design of Learning Environments
________  __ PSQF:6208 Designing Educational Multimedia OR PSQF:6215 Web-based Learning
________  __ PSQF:6299 M.A. Project: Internship/Practicum/Project

Area of Emphasis: (6 credits) __________________________
(Choose emphasis area and courses from list below)

________  __ PSQF: ___________________________________________________________________
________  __ PSQF: ___________________________________________________________________

TOTAL          30

Options for Focus Areas

Human Development and Motivation
- PSQF:4106 Child Development
- PSQF:4111 Human Motivation
- PSQF:4130 Early Adolescent Development
- PSQF:4133 The Adolescent and Young Adult
  PSQF:6206 Advanced Child Development

Technology and Media
- PSQF:6208 Designing Educational Multimedia
- PSQF:6215 Web-based Learning
- PSQF:7331 Digital Media and Learning
- PSQF:6216 Online Tools and Utilities
- PSQF:6:211 Universal Design and Accessibility for Online Learning

Measurement and Evaluation
- PSQF:4143 Introduction to Statistical Methods
- PSQF:6257 Educational Measurement and Evaluation
- PSQF:6220 Quantitative Educational Research Methods
- PSQF:5165 Introduction to Program and Product Evaluation
- PSQF:6265 Program Evaluation

* All courses are three semester hours unless otherwise noted.
## University Tuition Proposal for 2015-2016 Academic Year

<table>
<thead>
<tr>
<th>University</th>
<th>SUI / ISU / UNI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuition Category</strong> (Please underline)</td>
<td>Undergraduate / Graduate / Professional</td>
</tr>
<tr>
<td><strong>Residency Status</strong> (Please underline)</td>
<td>Resident / Nonresident</td>
</tr>
<tr>
<td><strong>Other classification</strong> (define as necessary upper division, lower division, etc.)</td>
<td>MA students who have been accepted in to the Learning Sciences subtrack in the Department of Psychological and Quantitative Foundations.</td>
</tr>
<tr>
<td><strong>Proposed decrease</strong> ($ and %):</td>
<td>Resident tuition rather than non-resident tuition</td>
</tr>
</tbody>
</table>

### Discussed with leadership of:

- Faculty? YES NO
- Staff? YES NO
- Students? YES NO
- Discussed with other university presidents? YES NO

Provide clear and concise explanation along with convincing justification for proposed decrease (use as much space as necessary and attach other documents as appropriate, i.e. comparative peer data)

The MA program in the Learning Sciences is offered to students online. This Learning Sciences MA program includes 30 credits hours and is a subprogram within the Department of Psychology and Quantitative Foundations in the College of Education. These courses are all offered online. Offering in-state tuition for those out-of-state students pursuing an MA in the Learning Sciences would help support the overall enrollment in the program and would also support our international enrollment. Currently our MA degree in Educational Psychology draws a number of students from Asia. We hope to increase this enrollment in our online program.

Concisely describe how proposed decrease will assist the university in making progress on strategic goals and objectives

Offering this incentive for potential students from outside of Iowa, and potentially the US, enrolled in the Learning Science MA subprogram links well with the strategic goal of fostering community through student diversity, both from within the US and in other countries. The strength of online learning comes from crossing borders and allowing students the opportunity to interact with individuals from beyond Iowa City. In addition, as the degree focused on learning in context, fostering enrollment of students from beyond the state of Iowa would enhance all students understanding of how and where different forms of instructional techniques are used and what learning gains arise from those.
For nonresident undergraduates, does the tuition amount cover the full cost of education as calculated by the biennial unit cost study?

| N/A / YES / NO |
Academic Affairs Office Initiatives
Graduate Education Infrastructure

- Student Record Keeping
- Thesis and Dissertation
- Degree Progress and Completion
- Recruitment and Admission
- Rules and Regulations
Thesis and Dissertation

• Updated our formatting requirements in fall 2014
• Presented as a concise style sheet
• Focus is on consistency and professional appearance
• New personnel with background and experience in scholarship
Help each step of the way

Image: Akram, Her Flying Red Shoes
The University of Iowa offers over 20 undergraduate-to-graduate degree combinations under the name U2G. Students enrolled in a U2G program benefit from significant time and cost savings by either completing both the bachelor’s and master’s degrees in five years instead of six, or accelerating their Ph.D. For more information, visit www.grad.uiowa.edu/U2G.
Orientation & Welcome

All new graduate students are invited.
August 20, 2014 2:00-6:15 p.m.

RSVP at grad.uiowa.edu

Your ideas grow here.
Degree Progress and Completion
• Institutionalized curricula tied to a catalogue session are more accurate and systematically applied

• Ease of checking students’ degree progress

• Transparent and real-time access to information about fulfilling degree requirements

• Enormous efficiencies to be gained.
Institutional Data
## Record, Query, ACT

### Student Record Keeping Manual Processes
- Look-up current registration
- Record thesis title for deposit
- Exam Committee Record
- Exam Committee Approvals

### Institutional Data Automated Processes
- Record a data point, query the database, send a scheduled message
- Authenticated access allows for data to be systematically distributed across multiple record entries, e.g., transcript, library, etc.
- MAUI programmers adding features to allow us to record committees
- MAUI programmers to create MAUI workflow for this process
AAO Positions and Role

Associate Dean
Sarah Larsen

Assistant Dean
Heidi Arbisi-Kelm

Cindy Fetters
Reception

Joe Henry
Student Recruitment

Erin Kaufman
Thesis Examination

Anne Sparks
Degree Progress and Completion
Grad Success Umbrella
Doctoral Program Review
Graduate Education Task Force 2.0
2015-16
Strategic Task Force on Graduate Education (2009-2010)

• Comprehensive evaluation all of the graduate programs administered by the UI Graduate College.

Summary of Actions from TF 1.0

• Actions are ongoing
  – Numerous program actions
  – Revisions and restructuring of graduate programs across many disciplines
  – Financial issues- tuition, fellowship program changes
  – Strategic communication including campus wide address
5 years later.....

Time to re-evaluate where we are on the path to

*Successful Students and Distinctive Programs in Graduate Education*
Task Force 2.0 Process/Timeline

**Graduate programs prepare updates**
*Due November*

**Evaluation by disciplinary subcommittees**
*Meet November-December*

**Task force oversight committee**
(Associate deans, Grad College)
*January-February*

**Graduate Council review**
*February – March*

**Final report to provost**
*mid March*
Disciplinary Subgroups

- Arts and Humanities
- Social Sciences
- Biological and Life Sciences
- Physical, Mathematical and Engineering Sciences
- Health Sciences
Preview of Program Update Request

• Graduate Student Success:
  – Program initiatives
  – Graduate student outcomes

• Programmatic Changes:
  – Curricular changes, best practices, impact of changes

• Future Initiatives/opportunities

• Updates due at beginning of November
Role of Oversight Committee, GC Council

- **Oversight committee** (Associate Deans from Colleges; GC Dean and Associate Dean)
  - Review reports from disciplinary committees
  - Formulate broader recommendations

- **Graduate Council** (13 graduate faculty; 4 graduate students)
  - Provide feedback on draft report
• Questions?