LAPS-5330-001
Psychology of Learning and the Learning Sciences
Summer 2022

Instructor Information

Instructor(s)
George Siemens, PhD

Email Address
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Faculty Profile
Information about me can be found here: https://mentis.uta.edu/explore/profile/george-siemens

Office Hours
Given the global nature of the MS LA program, I haven't set regularly scheduled office hours. I am willing to meet with you at flexible times and as frequently as is needed. Please email me or message me in Canvas and I'll confirm within 24 hours.

Course Information

Time and Place of Class Meetings
This course, and the entire MS LA, is exclusively online. All lectures will be recorded and learning materials for the coming week will be released Sunday evening. Live sessions are planned on an alternating weekly basis (between this course and 5320) and will be set within the first week of the course to accommodate learner's existing schedules.

Weekly (roughly every 7-10 days as we alternate weekday/weekend) "pub chats" will be held for flexible discussions about anything related to learning analytics. I **strongly encourage** you to attend these sessions as they put you in touch with peers and cover wide ranging review of LA topics and concepts.

Learning online is a unique experience and requires different forms of engagement, in comparison with in-class sessions. A primary habit to develop is regular (daily) engagement with course materials. Suggestions on "how to succeed" online and related program and support resources are accessible through the MSLA Learning Hub.

Description of Course Content
The MSLA focuses on using data science techniques to understand learning. With the rich history of research in domains of psychology and learning sciences, it's important for researchers and practitioners in learning analytics to explore existing understanding of human learning processes and existing evidence. Learning is a complex and integrated activity that involves an interplay of culture, context, cognition, and our bodies. To understand learning, and related knowledge processes such as sensemaking, familiarity with a significant range of interacting variables is required. Within the field of learning analytics, researchers have access to holistic *in situ* data that provides insight into learning as it unfolds as well as mechanisms to intervene, support, and optimize processes. Data science in general, and learning analytics specifically, offer novel methodological approaches to assess and understand learning, advancing and accelerating research and insights to support teaching and learning.

This course provides learners with an overview of the history of research into human learning including cognitive, metacognitive, affective, and emotive attributes. The course will identify consequential theorists and researchers, the impact of teaching, impactful learning states and processes, as well as anticipated opportunities and challenges of artificial cognition/intelligence.

Student Learning Outcomes
By the end of the course, students will be able to:

- Describe the prominent stages and evolution of learning theory over the past 150 years.
- Explain how culture, cognitive processes, "artifact architecture", distributed cognition, and embodied cognition interact in digital learning environments.
- Evaluate and articulate the attributes of, and relationship between, learning and sensemaking and the contexts in which both are required.
- Detail personal learning practices and processes that have the greatest impact on learning outcomes and performance.
- Evaluate how learning analytics relates to, and interacts with, existing research in psychology of learning and learning sciences.
- Describe the process of using data to create constructs of learner performance, including cognitive states such as mind wandering, attention management, and self-regulation.
- Detail learning ecologies and how they support learning
- Evaluate the impact of information abundance, ease of information access, and information error and manipulation on the processes of learning and sensemaking in forming coherent and integrated knowledge about specific topics.

Required Textbooks and Other Course Materials
This course uses the Cambridge Handbook of Learning Sciences, 2nd edition as a primary text. The paperback version of this text is available on various sites ranging in total from $45-70 USD. Some are available for less if you're exploring used options. Kindle, pdf, and ebook versions are often priced less.

Additional readings, accessible through University of Texas Arlington Library, will also be used.

During the course, articles will be provided in the weekly modules. Lectures and online resources will also be freely accessible.

Descriptions of major assignments and examinations

Assignments
This course has three primary assignments and one participation grade:

Ongoing Learning Activity 15%
A critical aspect of learning is creating an infrastructure for ongoing and continuous learning. For this assignment, you will use social bookmarking site, Diigo recommended, to capture and share articles, videos, and other resources addressing learning processes and learning activities.

Group Project 40%
This assignment involves two small group activities. You will begin in groups of 2 or 3. You will select and review a foundational topic in learning sciences. You will create a presentation of ~10 minutes detailing what is currently known about this topic. You will then be re-assigned into a second group where you will be tasked with evaluating which learning analytics approaches could be used to address the opportunities of the topic created by one other group (this will also be assigned). ***Where enrolment is low, these activities may be done by the same group.*

Concept map 30%
Throughout the course, we'll be discussing critical readings and resources related to learning sciences and psychology of learning texts, ideas, and resources. For your concept map, using free/open software such as CMAP and VUE (Visual Understanding Environment), or PowerPoint or similar software, detail key learning concepts and their relatedness. Create a presentation, max 15 minutes, that details how the various learning science concepts are integrated and connected.

Discussion forum participation 15%
Discussions with peers are critical to learning and shaping your thinking and comfort with a diverse range of learning science topics, methodologies, and theories. Throughout the course, you will be asked to engage in discussions with peers about key topics relating to learning. Your grade will be determined by three components: 1. Original contribution, 2. Engagement with peers, 3. Consistency of posting.

Technology Requirements
This course will primarily take place in Canvas, with some office hours in Zoom or MS Teams.

Other Requirements
Given the distributed and global nature of the course, interaction with course instructors will be held online in Canvas.

You will also be invited to attend online webinars and conference during the duration of the course, and the MS LA program in general. These events may require additional technologies not detailed above.

You will explore additional technologies as you do your group work and methodologies. These tools will be decided by your group members, but none will be required or mandated.

For your concept map, you will have the choice to use open source software or tools like PowerPoint to create your map.

You will also use social bookmarking software (Diigo recommended) to share readings, videos, and related resources.

Grading Information

Grading

Grades will be posted on Canvas following three days after each assignment has been submitted. The grade scale is as follows:

90-100 points	A
80-89 points	B
70-79 points	C
60-69 points	D
< 60	F

There is no extra credit. The best predictor of a good grade is regular engagement with the course and reading of the assigned material within the assigned week.

Expectations for Out-of-Class Study
Beyond the time required to view each online lecture, students should expect to spend at least an additional 5-7 hours per week in course-related activities, including reading required materials, engaging with peers, and completing assignments.

Grade Grievances
Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog.

Course Schedule

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. This may include the addition of a guest speaker or changes to the course material covered during the weeks detailed below.

Week	Dates	Topic	Assessment Details	Comment
W1	June 6 – June 12	Orientation & Overview: Learning sciences and psychology of learning	Discussion Forum	Course overview, assignments, expectations.
W2	June 13 – June 19	The neuroscience of learning		
W3	June 20 – June 26	Cultural dimensions of learning, Learning contexts	Discussion Forum	
W4	June 27 – July 3	Cognition and learning	Discussion Forum	
W5	July 4 – July 10	Metacognition and self-regulation	Group presentation #1 due: July 10	
W6	July 11 – July 17	Distributed cognition, Embodied cognition	Draft concept map for peer review	Group reassignment posted
W7	July 18 – July 24	Conceptual change, Scaffolding and learner support		Peers will have two weeks to review: CMAP
W8	July 25 – July 31	Social and peer learning	Group Presentation #2 due: July 31	
W9	Aug 1 – Aug 7	Motivation, engagement, mind wandering	Discussion forum	
W10	Aug 8 – Aug 10	Feedback	Concept map due: Aug 10, Diigo due: Aug 10	
W11	Aug 11 – Aug 12	Exam Week		

Institutional Information

UTA students are encouraged to review the following institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please

visit the Institutional Information page (https://resources.uta.edu/provost/course-related-info/institutional-policies.php) which includes the following policies among others:

- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
- Student Feedback Survey
- Final Exam Schedule

Additional Information

Master of Science in Learning Analytics Orientation and Resource Hub
This Orientation and Resource Hub is a central resource for students in the master's program. It has all critical information related to the program, any events, UTA resources, and training for new students.

Departmental and Program Assistance
If you have any questions about the MSLA program, please contact Justin T. Dellinger, Ph.D. at jdelling@uta.edu.

Attendance
At the University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator of student success. Each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. Since the MS LA is fully online, attendance is less consequential than engagement. As the instructor of this course, I will encourage you to log on daily and be active in readings and discussions.

While UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report must the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Canvas. This date is reported to the Department of Education for federal financial aid recipients.

Academic Success Center
The Academic Success Center (ASC) includes a variety of resources and services to help you maximize your learning and succeed as a student at the University of Texas at Arlington. ASC services include supplemental instruction, peer-led team learning, tutoring, mentoring and TRIO SSS. Academic Success Center services are provided at no additional cost to UTA students. For additional information visit: Academic Success Center. To request disability accommodations for tutoring, please complete this form.

The English Writing Center
The Writing Center offers **FREE** tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Register and make appointments online at the Writing Center (https://uta.mywconline.com). Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see Writing Center: OWL for detailed information on all our programs and services.

Library Information
Each academic unit has access to Librarians by Academic Subject that can assist students with research projects, tutorials on plagiarism and citation references as well as support with databases and course reserves.

Research or General Library Help
Ask for Help

- Academic Plaza Consultation Services (library.uta.edu/academic-plaza)
- Ask Us (ask.uta.edu/)
- Research Coaches (http://libguides.uta.edu/researchcoach)

Resources

- Library Tutorials (library.uta.edu/how-to)
- Subject and Course Research Guides (libguides.uta.edu)
- Librarians by Subject (library.uta.edu/subject-librarians)
- A to Z List of Library Databases (libguides.uta.edu/az.php)
- Course Reserves (https://uta.summon.serialssolutions.com/#!/course_reserves)
- Study Room Reservations (openroom.uta.edu/)