# LAPS-5310-001 Learning Analytics Fundamentals

Fall 2021

## Instructor Information

### Instructor(s)

George Siemens, PhD

### Email Address

gsiemens@uta.edu

### Faculty Profile

Information about me can be found here: <https://mentis.uta.edu/explore/profile/george-siemens>

and here: <https://scholar.google.com/citations?user=EtknWk4AAAAJ&hl=en>

### Office Hours

Given the global nature of the MS LA program, I haven’t set office hours. I am willing to meet with you at flexible times. Please email me 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. No live sessions are planned, but office hours will be available on your request. Learning online is a unique experience and requires different forms of engagement. Primary is regular (daily) engagement with course materials. Suggestions on “how to succeed” online will be provided and shared throughout the program.

### Description of Course Content

Learning Analytics (LA) Fundamentals surveys the field of learning analytics. It details the development of LA since its formal inception in 2011 and the unique contributions it makes to learning innovation and education in general. The course provides an accessible introduction to the main theoretical frameworks, research methodologies, and practical problems that LA attempts to solve. The role of LA in psychology and human understanding is also addressed, focusing on affect, cognition, and general educational psychology.

### Student Learning Outcomes

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

* Describe the evolution of learning analytics as an academic and research field, including the various domains from which it draws.
* Define learning analytics and how it differs from related fields such as educational data mining (EDM) and AI in education (AIED).
* Detail the theoretical and pedagogical frameworks of LA and how these influence the scope of LA initiatives.
* Detail the primary models and approaches used by LA researchers and practitioners.
* Review and track literature in LA, EDM, and AIED, noting emerging trends and new directions of research and practice.
* Describe how LA contributes to existing psychology research in cognitive science and social psychology.
* Describe prominent LA case studies, including strengths and weaknesses of each.
* Plan and implement an LA initiative to solve a discrete problem in an educational setting.

*Required Textbooks and Other Course Materials*

The Handbook of Learning Analytics is a useful (free) resource that can be accessed here: <https://www.solaresearch.org/publications/hla-17/>

During the course, articles will be provided in the weekly modules. Lectures and online resources will also be freely accessible. No purchased textbook is needed.

### Descriptions of major assignments and examinations

Assignments

This course has three primary assignments and one participation grade:

*LA Paper 30%*

This assignment involves a 2000-word (max, not including citations) paper on a learning analytics topic drawn from literature. The paper will be APA formatted and will explore the development and current state of a key topic within LA literature.

*Group work 20%*

This assignment involves small group (I will assign groups of 2 or 3) work and coordination. LA requires constant engagement across various teams and types of expertise. As a team, you will identify a specific approach to data analysis in LA and create a 30-minute presentation that details the method, the technologies that are used in analysis, and the future direction and use.

*Prominent paper presentation 30%*

On a weekly basis, you will encounter numerous papers. As you move through the course, identify three critical papers that resonate with you. For each of these three papers, identify topics, methods, and implications. Create a 15-minute recorded presentation to share with course peers.

*Discussion forum participation 20%*

Discussions with peers are critical to learning and shaping your thinking and comfort with a diverse range of LA topics, methodologies, and theories. An a bi-weekly basis, you will be asked to engage in discussions with peers. You will be graded on your contributions, focusing on novelty, completeness of response, and engagement with peers. A weekly response of ~200 words and reply to two peers are expected.

### 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.

## 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 | Aug 25 –  Aug 29 | Orientation | Discussion forum | Mainly introductions and group hugs. |
| W1 | Aug 30 – Sep 5 | Defining Learning Analytics |  |  |
| W2 | Sep 6 –  Sep 12 | Problems and Opportunities Addressed by Learning Analytics. | Discussion forum | Labor Day Holiday, Sept 6 |
| W3 | Sep 13 –  Sep 19 | Case Studies and Examples of LA in Multiple Settings |  |  |
| W4 | Sep 20 – Sep 26 | Theoretical Foundations of LA | Discussion forum |  |
| W5 | Sep 27 – Oct 3 | Methods in LA I |  |  |
| W6 | Oct 4 –  Oct 10 | Methods in LA II | Discussion forum |  |
| W7 | Oct 11 –  Oct 17 | Methods in LA III |  |  |
| W8 | Oct 18 –  Oct 24 | Multimodal Data | Discussion forum |  |
| W9 | Oct 25 –  Oct 31 | Group Work and Collaborative Analytics | Group presentation due |  |
| W10 | Nov 1 –  Nov 7 | Presentation Reviews |  |  |
| W11 | Nov 8 –  Nov 14 | Learning Analytics and Psychology Research | Paper Presentation Due (Nov 14) |  |
| W12 | Nov 15 – Nov 21 | Learning Analytics and Psychology Research II |  |  |
| W13 | Nov 22 – Nov 28 | Bias, Ethics, and Privacy | Discussion forum |  |
| W14 | Nov 29 – Dec 5 | Trend Tracking and Sector Engagement |  |  |
| W15 | Dec 6 –  Dec 12 | Review | LA paper due  (Dec 12) |  |

## 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](https://resources.uta.edu/provost/course-related-info/institutional-policies.php) 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](https://uta.instructure.com/courses/98914) 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](mailto: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](https://www.uta.edu/student-success/course-assistance). To request disability accommodations for tutoring, please complete this [form](https://forms.office.com/Pages/ResponsePage.aspx?id=Q1vcXL7XqkyBc3KeOwpi2ccSjcIXpSJAqJFuDEhczLlUMVVHRVRIVlJJWDZJWlVYOUgxNjRPODdLVS4u).

**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/) (https://uta.mywconline.com). Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see [Writing Center: OWL](http://www.uta.edu/owl) for detailed information on all our programs and services.

**Library Information**  
Each academic unit has access to [Librarians by Academic Subject](https://libraries.uta.edu/research/librarians) 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](https://library.uta.edu/academic-plaza)(library.uta.edu/academic-plaza)
* [Ask Us](http://ask.uta.edu/)([ask.uta.edu/](http://ask.uta.edu/))
* [Research Coaches](https://library.uta.edu/subject-librarians) (http://libguides.uta.edu/researchcoach)

Resources

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