

BEP-541 Foundations of the Learning Sciences

Summer 2026, College of Education, The University of Alabama

Instructor: Firat Soylu (fsoylu@ua.edu)

Office hours: Wednesdays, 12 - 2 PM CST or please email to make an appointment

Office hour appointment: Visit <https://calendly.com/drsoylu/> to reserve a 30 min slot

Course site: Blackboard

Course Description

Decades of work in the cognitive and developmental sciences has converged around principles that provide a foundation for a science of learning with direct implications for teachers, learners and the design of learning environments. This course provides an overview of scientific findings on learning and cognition, and the implications of these findings for learning and teaching in diverse contexts.

Course Objectives

Students will:

- review major theories and approaches to learning and cognition
- review scientific findings on biological correlates of learning and cognition
- discuss the implications of research for educational design and practice
- reflect on their own approaches to learning and teaching
- formulate ideas and strategies applicable to their own learning and teaching

Office Hours & Contacting the Instructor

You can contact me through my email at fsoylu@ua.edu . Please format the subject line as “BEP 541 - Subject of email”. The “BEP 541” part of the subject will help me keep track of your emails, therefore please ensure that you include it in your subject line. I will respond to your emails within 24 hours.

I will conduct weekly office hours to have more extended conversations on the course content and to cover anything else you would like to ask or discuss. The office hours take place every Wednesday, 12-2 PM (CST). You can reserve a 30 min time slot by visiting <https://calendly.com/drsoylu/>. You can also email me to make an appointment for another day/time, if you are not available during the office hours.

Textbooks & Course Materials

The main text for this course is:

Dehaene, S. (2020). How we learn: Why brains learn better than any machine... for now. Penguin. You can find this text on EBSCO or purchase it online. A digital copy, downloaded from archive.org, is also available below.

In addition, each module will include links to articles/podcasts/videos, which will be posted for direct access inside the modules.

Summary of Course Activities

All course activities, except for the office hours, will take place asynchronously.

Modules

There are 9 modules. Each module refers to a one-week segment of the class that involves:

- reading book chapters or articles
- listening to podcasts or watching videos
- writing a reflection about the contents of the module
- posting one discussion question, and
- participating in the discussions in the discussion forum
- taking short a quiz

Module Readings & Reflections

In each module, you will read and review various texts and other media (e.g., videos, podcast episodes) around one of the topics of this course. For each module, I have prepared a written introduction to help orient you to the weekly topic and to guide your reading. I recommend you review this before diving into the material.

After going through the materials for the week, you will post a reflection, accompanied by at least one discussion question related to the theme for the module. The reflection for each chapter should communicate:

1. Your general impressions (e.g., did you like it / find it useful or interesting?).
2. At least five points you learned and found interesting from the readings
3. How the concepts and practices covered in the chapter parallel or oppose your own assumptions, ideas or professional practices.

You can also share any additional resources you have found and liked (e.g., articles, books, videos, podcasts) on the topic for the module. It is crucial that your reflection covers the three items listed above. An example weekly reflection is shown on the discussion forum.

Discussion Questions

At the end of your reflection, you will pose at least one discussion question for the class on a topic that you want to further discuss. The discussion question has to be directly related to the readings and the contents of the module. It should be in a separate paragraph and in boldface, so that viewers of your post can quickly spot your discussion question for the module. Before posting your question, please take a look at the previously posted questions to ensure that same or similar questions are not posted multiple times.

Participating in Discussions

The reflections and the questions posted together with the reflections will be our starting point for the discussions for each module. You can participate in discussions by commenting, and providing feedback and constructive criticism in response to your peers' reflections or by responding to the questions posed by other people at the end of their reflections. Since we do not have the chance to meet face-to-face, the forum discussions will function like classroom discussions. You are encouraged to share your personal and professional experiences as well as insights from the readings in your discussion posts.

You are not expected to respond to every question posed in each module, however you are expected to actively participate in each module discussion by responding to at least two reflections or questions. Your comments and feedback should be thoughtful and should contribute to the discussion (e.g., "That's a great idea!" alone does not count as participation). You are also encouraged to rate others' reflections based on how helpful they were in providing new insights to you about the content for the current module. You can do this by using the rating box under each reflection. These ratings are anonymous and won't affect the grades, but instead will function as informal feedback.

Weekly Quizzes

There will be a brief multiple-choice quiz every week covering the module contents. You need only to complete the readings and other materials posted under the module to prepare for the quiz. The quizzes are

intended to give you an extra motivational boost to keep up with the readings and engage with them deeply – and to help clarify what information is among the most critical in each module.

Course Project

Details about the project will be provided on the course website.

Due Dates

There are nine modules (one for each week). The week for each module is structured as:

- Monday – Thursday: Complete the readings
- Thursday 11:59 PM: Reflection & discussion question due
- Friday – Sunday: Participate in the discussion forum
- Sunday 11:59 PM: Discussion posts & quiz due

For each module you are expected to post your reflection and discussion question(s) by **Thursday 11:59 PM** (see due dates under Schedule). The discussion board for the current module will be available until **Sunday 11:59 PM**, therefore you should make your contributions to the discussion forum by then. The module quiz for each module should be submitted by **Sunday 11:59 PM**. Submissions will not be graded after the submission deadlines.

Schedule & Weekly Themes

There are 9 modules. For each module reflections are due at 11:59 pm on the dates posted below.

Module	Due Date	Topic
1	May 29	What is Learning?
2	June 4	Learning and the Brain 1
3	June 11	Learning and the Brain 2
4	June 18	Facilitating Learning 1
5	June 25	Facilitating Learning 2
6	July 2	Embodiment: Learning and the Body
7	July 9	Learning Disorders
8	July 16	Measuring and Assessing Learning
9	July 23	Learning Tools and Technologies
	July 31	Final project due

Grading

Assignment	Grade Points
Module reflections & discussion questions (3 pts each x 9)	27
Discussion forum participation (2 pts each x 9)	18
Weekly quizzes (5 pts each x 9)	45
Project	10
Total	100

Grading scale: A: 90 - 100, B: 80 - 89, C: 70 - 79, D: 60 - 69, F: 0 - 59

Policy Statements

Policy on Missed Exams and Coursework

It is important that students turn in all assignments on time and take exams on scheduled dates. Except in the case of documented severe illness, funeral of a family member, or a personal, catastrophic or religious event (as defined by the University policies), assignments submitted late will not be accepted.

Attendance Policy

This is an asynchronous class, therefore attendance will not be taken. However, active participation in the discussion forum is expected.

Generative AI Tools

All submitted work must be produced by students themselves in this course. Use of generative AI tools such as ChatGPT, Claude AI, Microsoft Copilot, etc., to prepare an assignment for submission is not permitted. Although this policy does not prohibit using an AI tool to support your understanding of the course materials before you produce a written assignment, I encourage you to avoid altogether using such tools in this course, because they may well steer you in the wrong direction; you should not feel confident that an AI summary of a course reading is accurate, produces the takeaways you need, or includes the nuances that would make the text meaningful to you. On the other hand, this is a course that addresses not only foundations but also current directions in the learning sciences. Therefore, if you do choose to carefully use ChatGPT or its ilk, and you find it an effective learning tool, bring it up in class or on the discussion forum and we'll discuss!

Notification of Changes

The instructor will make every effort to follow the guidelines of this syllabus as listed; however, the instructor reserves the right to amend this document as the need arises. In such instances, the instructor will notify students in class and/or via email and will endeavor to provide reasonable time for students to adjust to any changes.

Mission of the College of Education

Our mission in the College of Education is to be a leader in Alabama and across the nation in teaching, scholarship, advocacy, and service by developing professionals with pedagogic and disciplinary expertise who advance the intellectual and social conditions of all learners in a globalized society.

Conceptual Framework Summary

The vision of the College of Education (COE) at The University of Alabama is to develop effective, ethical, and reflective professionals who advance the theme of the COE: Unite, Act, and Lead (UA Leads). By engaging in theoretically informed and intellectually advanced effective practice our graduates will

UNITE with the larger community to collaboratively nurture cultural competence, empathy, and a vision of equity and justice for all learners;

ACT to develop the full potential of all learners to be excellent professionals in their fields; and

LEAD through continuous research-based critical inquiry of policy and reflective practice to enable transformative change in our diverse local and global communities.

Dispositions

We strive to create programs that emphasize Fairness and Equity, Reflective Stance for Professional Practice, a Commitment to Diversity, and a Culture of Collaboration.

Statement on Academic Misconduct

Students are expected to be familiar with and adhere to the official Code of Academic Conduct provided in the Online Catalog (<https://catalog.ua.edu>).

Statement on Disability Accommodations

- Contact the Office of Disability Services (ODS) as detailed in the Online Catalog.

- The Office of Disability Services (ODS) is the central contact point for UA students with disabilities. The goal of ODS is to ensure that University programs and services are accessible to qualified students with disabilities. For student who may require their services more information is available at <http://ods.ua.edu>. ODS is located at 1000 Houser Hall and their phone number is 348-4285 (voice) or 348-3081 (TTY).

Severe Weather Protocol

Please see the latest Severe Weather Guidelines in the Online Catalog. The link for the Severe Weather Guidelines is <https://ready.ua.edu/severe-weather-guidelines/>

Statement on Pregnant and Parenting Students

Title IX is a federal law that prohibits discrimination on the basis of sex in an education program. Among the types of gender discrimination covered by this statute, Title IX protects against discrimination related to pregnancy or parental status. Protection extends to students who are pregnant or who have either had a false pregnancy, termination of pregnancy, have gone through childbirth, or are recovering from any of those conditions. Title IX regulations also prohibit a school from applying any rule related to a student's parental, family or marital status that treats students differently based on their sex. For more information, please visit http://provost.ua.edu/uploads/3/9/7/6/39760652/student_pregnancy_faq_final_8_11_17.pdf

Statement on Religious Observances

The University of Alabama respects the religious diversity of our academic community and recognizes the important of religious holy days and observances in the lives of our community members. For more information, please go to <http://provost.ua.edu/religious-observances.html>

Statement on Academic Work Duplication

Any submission of academic work designed to meet the requirements of a particular credit-bearing course is assumed to be work completed for that course and only that course; the same material submission, or material that is substantially similar, may not be used to meet the requirements of another course. Any violation of this rule may result in a referral to the Associate Dean for Student Services and Certification for disciplinary action.

UAct Statement

The UAct website provides an overview of The University's expectations regarding respect and civility. The website link is <https://www.ua.edu/campuslife/uact/>