EDEP 5114: LEARNING & COGNITION
(CRN 84885)

Instructor: Peter Doolittle **Date/Time:** Tuesdays, 7:00-9:50 pm
Office: 2039 Kraft Drive (CRC) **Location:** 2013 Kraft Drive (CRC)
Office Hrs: By Appointment **Website:** www.peterdoolittle.org
Email: pdoo@vt.edu **Prerequisite:** Graduate Status

PURPOSE

How, what, and why do we learn?   How are learning, memory, & cognition related?

How is student agency fostered in instruction?   How do we foster deep and flexible learning?

Course Description

The *Learning and Cognition* course examines the nature and application of human learning, from a broad perspective, and its application of educational environments. The course focuses on the main theoretical approaches to human learning: behaviorism, including classical and operant conditioning; social cognitive theory, including modeling, self-efficacy, and agency; and cognitive psychology, including learning, memory, and cognition. This examination focuses on three overarching questions: How do we learn? What do we learn? Why do we learn? Ultimately, this course is obsessed with putting theory into practice.

Course Text

Ormrod, J. E. (2020). Human learning (8th edition). Pearson.

Pedagogy

reading + experiencing + discussing + applying + creating

Honor Code

The tenets of the Virginia Tech Graduate Honor Code will be strictly enforced in this course, and all assignments shall be subject to the stipulations of the Graduate Honor Code. For more information on the Graduate Honor Code, please refer to the GHS Constitution (https://graduateschool.vt.edu/academics/expectations/graduate-honor-system.html).

Learning Goals and Outcomes

G1: Students will understand various theories of learning and their application
    LO1: Students will be able to explain theories of learning.
    LO2: Students will be able to apply theories of learning to everyday life, formal and informal education, and information, productivity, and social technologies.

G2: Students will understand the interrelationship between learning, memory, and cognition
    LO3: Students will be able to explain the role that memory plays in learning and cognition.
    LO4: Students will be able to apply principles of memory to everyday life, formal and informal education, and information, productivity, and social technologies.

G3: Students will understand human agency from the perspective of learning, memory, and cognition.
    LO5: Students will be to explain agency through self-efficacy, self-regulation, and self-motivation.
    LO6: Students will be to apply principles of agency to everyday life, formal and informal education, and information, productivity, and social technologies

Evaluations

Student performance will be evaluated in five ways: the completion of Reading Response explanations, Knowledge Consolidation actions, Theory-to-Practice papers, In-Class Daily Primings, and Daily Class Evaluations. The Reading Response Explanations provide an opportunity for students to extract the essential meaning from a reading and summarize that meaning clearly and concisely. The Knowledge Consolidation Actions provide an opportunity for students to refine their learned knowledge and skills from the class. The Theory-to-Practice Papers provide an opportunity for students to connect learning theory to specific classroom practices. The In-Class Daily Primings provide an opportunity for students to activate and review core ideas from the reading at the beginning of each class. The Daily Class Evaluations allow students the opportunity to reflect on their learning and provide feedback to the instructor on the conduct of the course. The assignments are delineated in the *Reading Response Explanations*, *Knowledge Consolidation Actions*, *Theory-to-Practice Papers*, *Daily Primings*, and *Daily Class Evaluations* handouts.

Grading

Reading Response Explanations	(13 x 100 points)	1300 pts
Knowledge Consolidation Actions	(25 x 40 points)	1000 pts
Theory-to-Practice Papers	(5 x 200 points)	1000 pts
In-Class Daily Priming	(13 x 30 points)	390 pts
Post-Class Evaluations	(13 x 30 points)	390 pts
		======
		4080 pts

		B+	3671-3549	89-87%	C+	3263-3141	79-77%	F	< 2448
A	4080-3835 100-94 %	B	3548-3427	86-84	C	3141-3019	76-74		
A-	3834-3672 93-90	B-	3426-3264	83-80	C-	3018-2856	73-70		

Attendance Policy and Late Policy

All students are expected to attend class regularly and promptly, and to come prepared to class by having read the day's readings, completed any pre-class assignments, and contemplated the reading's meaning and application. Submitting an assignment late will result in a grade of 0 points unless the late submission was cleared by the instructor in advance of the due date.

Mental Health and Well-Being

Supporting the mental health and well-being of students in my class is of high priority to me and Virginia Tech. If you are feeling overwhelmed academically, having trouble functioning, or are worried about a friend, please reach out to any of the following offices:

Cook Counseling
- Schedule an appointment and/or 24/7 crisis support: 540-231-6557
- **ucc.vt.edu** for more information

Dean of Students Office
- General advice: 540 231-3787
- After-hours crisis: 540-231-6411
- **dos.vt.edu** for more information

Hokie Wellness
- **hokiewellness.vt.edu** for information about health and wellness workshops and consultations
- Virginia Tech Recovery Community: **hokiewellness.vt.edu/students/recovery.html**

Services for Students with Disabilities (SSD)
- Accommodations and other disability-related supports: 540-231-3788
- ssd.vt.edu for more information

See a full listing of campus resources on **well-being.vt.edu**

Also, please feel free to speak with me. I will make every effort to work with you; I care about your well-being and success.

Services for Students with Disabilities

Virginia Tech welcomes students with disabilities into the University's educational programs. The University promotes efforts to provide equal access and a culture of inclusion without altering the essential elements of coursework. If you anticipate or experience academic barriers that may be due to disability, including but not limited to ADHD, chronic or temporary medical conditions, deaf or hard of hearing, learning disability, mental health, or vision impairment, please contact the Services for Students with Disabilities (SSD) office (**540-231-3788, ssd@vt.edu**, or visit **www.ssd.vt.edu**). If you have an SSD accommodation letter, please meet with the instructor privately during office hours as early in the semester as possible to deliver your letter and discuss your accommodations. You must give the instructor reasonable notice to implement your accommodations, which is generally 5 business days and 10 business days for final exams.

Essential Needs

For any student who has difficulty affording groceries, accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and if you believe this may affect your performance in this course, you are urged to contact the Dean of Students office for support at 540-231-3787 or complete an interest form to participate in The Market at Virginia Tech (https://cm.maxient.com/reportingform.php?VirginiaTech&layout_id=15).

The Dean of Students, through The Market at Virginia Tech, offers food options and other resources. There is also a Student Emergency Fund program (https://dos.vt.edu/emergencyfund.html). If you are comfortable in doing so, please notify your professor or departmental advisor of your situation. This will enable them to provide any resources they have access to.

Principles of Community

Virginia Tech is a public land-grant university, committed to teaching and learning, research, and outreach to the Commonwealth of Virginia, the nation, and the world community. Learning from the experiences that shape Virginia Tech as an institution, we acknowledge those aspects of our legacy that reflected bias and exclusion. Therefore, we adopt and practice the following principles as fundamental to our on-going efforts to increase access and inclusion and to create a community that nurtures learning and growth for all of its members:

- *We affirm* the inherent dignity and value of every person and strive to maintain a climate for work and learning based on mutual respect and understanding.

- *We affirm* the right of each person to express thoughts and opinions freely. We encourage open expression within a climate of civility, sensitivity, and mutual respect.

- *We affirm* the value of human diversity because it enriches our lives and the University. We acknowledge and respect our differences while affirming our common humanity.

- *We reject* all forms of prejudice and discrimination, including those based on age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status. We take individual and collective responsibility for helping to eliminate bias and discrimination and for increasing our own understanding of these issues through education, training, and interaction with others.

- *We pledge* our collective commitment to these principles in the spirit of the Virginia Tech motto of Ut Prosim *(That I May Serve)*.

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Mobile Technologies

Mobile technologies, such as cell phones, tablets, and laptop computers may only be used in class for class related purposes. Please respect your fellow students and the professor by turning off cell phones before class begins and refraining from using computers and tablets during class to check email or social media. There will be time during class breaks to check email and social media.

> *Cell Phones:* Cell phones should be turned off during all classes. It is understood that there may be occasions when you will need to leave your cell phone *on* to receive a phone call of extreme importance. In these extreme cases, please notify the instructor prior to the beginning of the class, have your cell phone set to vibrate.

> *Tablets and Laptop Computers:* Tablets and laptop computers should only be used for legitimate class related purposes (e.g., taking notes, reviewing readings, searching the web for class-based concepts). Please refrain from using these technologies for entertainment purposes during class (e.g., email, movies, music, social media).

> *Zoom Interface:* Zoom may be used to conduct the class synchronously online in the case of snow, pandemic, illness, or some random even of which we are currently unaware. It is requested that you attend a Zoom class with your camera (video) on and your Zoom profile display name set your preferred name (e.g., Peter Doolittle). This is a request only.

Inclement Weather

In the presence of inclement weather, there are three guidelines related to class cancellation:

1. *University Cancels Class:* VT campus closings due to inclement weather may be obtained by calling the Weather Hotline, (540) 231-6668; tuning to WVTF-FM 89.1 or 91.9; accessing the VT Twitter feed, twitter.com/vtalerts; or, viewing the VT home page, http://www.vt.edu or University State page, https://vt.edu/status.html. If the university is closed we will not have class, and I will send the class an email to that effect.

2. *Instructor Cancels Class:* If the weather is potentially hazardous, and the university is not closed, then I may cancel class myself. If I cancel class, then I will send an email to the class indicating the cancellation no later than 4 pm (although I will try for 12:00 pm) the day of class with the final word regarding whether class will be held.

3. *Student Misses Class:* If you determine that traveling to campus during inclement weather might be hazardous, then please send me an email indicating that you will not be attending class. Please use your best judgment in making this type of decision – be safe! If you decide not to come to class, based on inclement weather, you are still responsible for any work missed. You can participate in class using Zoom if travel is not an option.

Religious and Ethnic Holidays

From the VT website (https://www.registrar.vt.edu/dates-deadlines/religious-ethnic-holidays.html):

> As a publicly funded institution of higher education, Virginia Tech does not officially recognize religious holidays and celebrations. However, as an institution we recognize the importance of such events in the lives of our community members. In the spirit of inclusive excellence and our Principles of Community, faculty, staff, and students are encouraged to be cognizant of major religious and cultural observances when planning courses and campus events and to be sensitive to potential conflicts.

If you have religious or ethnic holidays that may prohibit or impact your attendance or participation in class, please let the instructor know in advance. While completion of all assignments and understanding of all material will still be required, adjustments to address your needs will be enacted, as possible.

Artificial Intelligence

Artificial intelligence and chatbots, such as ChatGPT, Claude, and Gemini, are tools to be used in productive, creative, and ethical ways. For this course, the use of AI, in any form, is allowed, and even encouraged. If you paraphrase or quote from an AI website or chatbot, cite the sources as you would any other source (e.g., book, article, website) according to APA guidelines:

Reference:
OpenAI. (2023). *ChatGPT* (Mar 14 version) [Large language model]. https://chat.openai.com/chat

In-text citation:
A theory provides an explanation of natural phenomenon that condenses existing empirical findings that can be used for describing, explaining, predicting, and extending knowledge of the natural phenomenon (OpenAI, 2023).

In addition, the use of artificial intelligence within this course must abide by the Honor Code and Principles of Community discussed elsewhere in this syllabus.

Communicating with the Instructor

All students are welcomed and encouraged to communicate with the instructor on issues relating to the course, grading, and special issues. The best way to contact me is in person: before, during, or after class. The second-best way to contact me is via email at **pdoo@vt.edu**. If you use email and do not get a response from me in 48 hours, please email me again (I appreciate the reminders!).

Syllabus Change

I'm here to help you be successful. If there's something that I can do to help you succeed in the class, please let me know.

Tentative Course Calendar Version 1.0

Date	Topic	Reading for Class	Weekly Assignment
8/26 **1**	No Class		
Explanation: None			
9/2 **2**	**Introduction** • Syllabus • Introductions	No Reading	✓ ~~Reading Response~~ ✓ ~~Daily Priming~~ ✓ ~~Post-Class Evaluation~~
Explanation: None			
9/9 **3**	**Perspectives on Learning** • Defining Learning • Scientific Approaches	Chapter 1 • entire chapter	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation
Written Explanation: There are a variety of different definitions of learning. What's your definition? Please write a one sentence definition of learning—your definition, not Ormrod's—and then provide a one paragraph explanation, with at least one example (of your own, not from Ormrod).			
9/16 **4**	**Behaviorism I** • Basic Assumptions • Classical Conditioning	Chapter 3 • pp. 40-52	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation
Written Explanation: Provide a brief description of the assumptions that underlie behaviorism (p. 41-43). If we take behaviorism seriously (and we will), what are 3 ramifications of a behaviorist approach to education, with one example for each ramification (of your own, not from Ormrod)?			
9/23 **5**	**Behaviorism II** • Operant Conditioning • Punishment	Chapter 3 • pp. 52-78	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation ✓ Theory-to-Practice 1 (CC)
Written Explanation: Provide a brief explanation of operant condition and make sure to include a discussion of the "important conditions for operant conditioning to occur" (p. 55). Include in your response an example of operant conditioning (or your own, not from Ormrod).			
9/30 **6**	**Behaviorism III** • Behaviorism in the Classroom • Concerns about Punishment	Chapter 4 • pp. 82-98 • pp. 106-121	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation
Written Explanation: Define and describe "mastery learning" (pp. 112-114). Explain how mastery learning might be used in a course like ours (EDEP 5114).			
10/7 **7**	**Social Cognitive Theory 1** • General Principles • Modeling • Agency	Chapter 5 • pp. 122-139	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation ✓ Theory-to-Practice 2 (OC)
Video Explanation: TBA			

10/14 8	**Social Cognitive Theory 2** • Self-Efficacy • Self-Regulation	Chapter 5 • pp. 140-145	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation

Video Explanation: TBA

10/21 9	**Cognitive Processing Theory 1** • Information Processing Theory • Human Memory	Chapter 6 • entire chapter	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation ✓ Theory-to-Practice 3 (SCT)

Video Explanation: TBA

10/28 10	**Cognitive Processing Theory 2** • Information Processing Theory • Human Memory	Chapter 7 • entire chapter	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation

Video Explanation: TBA

11/4 11	**Cognitive Processing Theory 3** • Information Processing Theory • Human Memory	Chapter 8 • entire chapter	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation

Video Explanation: TBA

11/11 12	**Sociocultural Theory 1** • Piaget • Vygotsky	Chapter 9 • Skim Chapter • Key Ideas Piaget 285-289	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation ✓ Theory-to-Practice 4 (IP)

Written Explanation: TBA

11/18 13	**Sociocultural Theory 1** • Piaget • Vygotsky	Chapter 10 • Skim Chapter • Key Ideas Vygotsky 313-318	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation ✓ Combined T-to-P 5

Written Explanation: TBA

11/25 14	Fall Break		

Oral Explanation: None

12/2 15	**Motivation 1** • Needs & Differences • Interests & Expectations • Goals & Attributions	Chapter 15 & 16 (skim only) • Read Chapter Summaries (provided by professor)	✓ Reading Response ✓ Daily Priming ✓ Post-Class Evaluation
Written Explanation: None			
12/9 16	**Flex Day**	No Reading	✓ ~~Reading Response~~ ✓ ~~Daily Priming~~ ✓ Post-Class Evaluation
Explanation: None			