



FORT HAYS STATE UNIVERSITY

ADVANCED EDUCATION PROGRAMS

Forward thinking. World ready.

AEP 824 Learning and the Brain

Fort Hays State University
College of Education
Advanced Education Programs Department

This course is offered through the Master's Degree in General Studies. Fort Hays State University is accredited by the Higher Learning Commission (HLC).

1. Course Information

Course ID and Title	AEP 824 Learning and the Brain
Credit Hours	3 Graduate credit hours
Semester and Year	TBD
Prerequisites	Enrolled in Master's of General Studies
Course Type/Location	Online

2. Instructor Information

Name	Dr. Elden Daniel (Primary) / Dr. Donna Rice (Alternate)
Title	Associate Professor
Office Hours	Online as needed
Email Address	drdaniel@gojade.org / drdonnausa@gmail.com
Phone Number	719-480-2089 (Office)

Contact Procedure and Policy

I am available via email. Please identify the course you are in in the subject line. I will attempt to reply to your email within 24 hours.

3. Course Materials

Required Readings

APA: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html (This site is highly searchable and includes samples)

Technology Requirements

The following are the minimum requirements for accessing and successfully completing this course. For any technology related questions, you may contact Tiger Tech at (785) 628-3478. Internet access via Google Chrome browser and the exclusive use of your FHSU student Gmail account. The following are the minimum technical requirements:

- High-speed bandwidth Internet access
- Ethernet connection for video transmission
- Extras not a part of laptop or desktop computing system
 - Webcam
 - External speakers or headphones
 - External microphone

Application Registrations

The course is delivered online with interaction through ***Moodle Learning Management System (LMS)***. To insure that candidates receive the essential interaction with the instructor and multiple opportunities to dialogue with fellow candidates, students are encouraged to have an audio/video web-based program available (for example; Google Chat, Hangouts, or Skype) and a webcam in order to enhance the online instruction.

- Google Sites/Google Community/Docs/Email
- Chat (Google messaging)
- Hangouts Plug-in: [Install this Plugin for Hangouts](#)

4. Course Description

The Learning and the Brain course describes the roles, functions, processes, and physical makeup of the brain and how it can be leveraged for optimal learning. This course defines the structure of the brain, how it functions, and how to enhance student cognition and development of academic skills. The course will also provide the classroom instructor with tools to help the student understand short- and long-term memory, identify factors that influence students' ability to remember, and understand higher level thinking and effective problem solving. Finally, this course will also help explain how multiple intelligences and learning styles can affect curriculum development and learning.

5. Course Objectives

1. Define and identify the parts of the brain and as a system.
2. Identify the parts of a neuron and the role it plays in learning.
3. Explain the relationship between executive functions and self-regulation.
4. Describe the ways in which the brain receives information from its environment and suggest the implications for teaching.
5. Identify and explain the modifications that occur in the brain with learning and memory.
6. Define brain plasticity and determine the implications for teaching.
7. Describe the role of simple story forms in how the brain processes information and explain the implications of narrative for learning.
8. Describe and list the impact of both positive and negative stress on the brain.
9. Summarize the impact of environmental factors on learning, and plan ways to minimize environmental stressors in the classroom.
10. Identify the components of long-term and working memory.
11. Identify the factors that influence students' ability to remember (retrieve) information over the long run and explain why students sometimes forget what they have previously learned.
12. Define a "flow" state and identify the factors that contribute to flow.
13. Describe the characteristics of the "nonconscious" learning climate and the implications for teaching.
14. Describe the cognitive processes involved in effective problem solving.

15. Identify the general characteristics that influence school readiness.
16. Indicate the impact of nutrition on the brain.
17. Explain the importance of goal setting, differentiating between mastery and performance goals, and provide concrete suggestions for helping students focus on goals.
18. Compare and contrast a traditional curriculum with a brain-compatible curriculum.
19. Explain how understanding multiple intelligences and learning styles effects curriculum development and instructional practices.
20. Prepare lesson plans that incorporate teaching to multiple intelligences.
21. Demonstrate an understanding of formal and informal assessment techniques.
22. Define higher-level thinking and give several examples.
23. Define authentic assessment and demonstrate how to apply it in the classroom.

6. Course Requirements

Each lesson includes content sources, and in lieu of a textbook, material composed of narrative plus either links to articles, YouTube presentations, or graphics. You will find yourself being more of a researcher than simply referring to a depository of content as is sometimes common when reading a traditional textbook as a way to gain content knowledge. You will find some of the content redundant, but in education we like to call this repetition which can be an instructional strategy. You also will find that sometimes the sources are not in agreement. This is okay too. Some sources will require careful and thoughtful reading while others will invite you to a less formal perusal. You will probably find the YouTube presentations and the graphics particularly helpful for providing summaries of the content concepts. Feel free as a researcher to explore other websites to gather further information.

7. Course Structure/Explanation of Points

Product One: Evidence of completing the lessons is submission of a scanned copy of the screenshot print of your online EXAM percentage score, or a scanned copy of your certificate of completion if available. This score is strictly a pass option with scores of 70% or more required. Exam must be retaken for any score below 70%. This is a must pass requirement. Exams with a score below 70% can be retaken until 70% or greater is achieved.

Option One: Evidence of completing the lessons is the submission of either the certificate of completion or a screenshot print of your online EXAM Score. This score is strictly a pass option with scores of 70% or higher required. Exam must be retaken for any score below 70%. and can be retaken until 70% or greater is achieved.

Option Two: If you do not have access to the DOD online course, you can meet the requirements of evidence of successful completion by creating an account and take the final exam for the course. Once you finish you will be able to download a certificate. Use the Non-DOD Civilian option in the dropdown on page 5 when you get there. <https://www.leadershipcredit.info/wp-content/uploads/2020/09/RTG-JROTC-Login-Instructions.pdf>

Product Two: Up to 150 Points will be awarded based on the quality of the responses to discussion prompts.

Product Three: Up to 1500 points are available for your major student writing assignment. Final grade will be determined as a percentage of points earned calculated on total possible points.

8. Modules

- Module 1: Structure of the Brain
- Module 2: Functional Organization of the Brain
- Module 3: Brain Development
- Module 4: Effects of Optimal and Aversive Stimuli
- Module 5: Basic Components of Memory
- Module 6: Keeping the Brain's Attention
- Module 7: Enhancing Cognition
- Module 8: Development of Academic Skills
- Module 9: Curriculum Development Through the Multiple Intelligences
- Module 10: Assessment that Enhances Learning

9. Mission Statements

Fort Hays State University Mission Statement

Fort Hays State University provides accessible quality education to Kansas, the nation, and the world through an innovative community of teacher-scholars and professionals to develop engaged global citizen-leaders.

College of Education Mission Statement

Education professionals prepared in the College of Education at Fort Hays State University will have the technological, pedagogical and content knowledge, skills, and dispositions to lead, model, teach and collaborate in diverse settings.

Advanced Education Program Department Mission Statement

The mission of the Advanced Education Department is to prepare 21st century global leaders who serve in educational and community settings. Degree programs focus on the interaction among innovative technologies, relevant content, diversity and best practices.

10. Course Expectations and Learning Outcomes

PROFESSIONAL STANDARDS: Preparing effective educational leaders is an increasingly important mission for colleges of education around the country. To meet the growing need for highly qualified educational leaders, [ISTE](#) has developed a set of performance assessment standards for initial and advanced endorsements.

Course Learning Outcome	ISTE Standard (Appendix B)	Shared Values/Beliefs (see Appendix A)
1. Educators will seek out and develop/design opportunities for leadership by promoting a shared vision for empowered learning	ISTE E. 2.1	TPACK 1, 4 TCK, 1 CK 1, 2 PCK 1, 2, 3, 4 PK 1 TPK 1
2. Educators dedicate time to collaborate with colleagues and students to create authentic learning experiences, discover and use digital resources and collaborative tools for	ISTE E. 4.1	TK 1

authentic, real-world learning experiences.		
3. Educators demonstrate cultural competency in communication	ISTE E. 4.2	PK 2
4. Educators will design authentic, learner-driven activities and environments that recognize & accommodate learner variability by using technology to personalize learning	ISTE E. 5.1	PK 2
5. Educators will design authentic learning activities based on standards	ISTE E. 5.2	PK 2
6. Educators will use appropriate digital tools to maximize deep learning and explore and apply instructional design principles that engage and support learning	ISTE E. 5.3	PK 2
7. Educators facilitate learning with technology to foster a culture where students take ownership of their learning goals and outcomes	ISTE E. 6.1	CK 2
8. Educators manage the use of technology and student learning strategies in digital platforms, virtual environments, hands-on makerspaces	ISTE E. 6.2	TPACK 2, 3, 4 TCK 1 PCK 3
9. Educators create learning opportunities to challenge students to use appropriate design processes and computational thinking to solve problems, and model and nurture creativity	ISTE E. 6.3	PCK 2 PK 1 TPK 1
10. Educators analyze and use data to drive their instruction by providing alternative ways for students to demonstrate competency using technology	ISTE E. 7.1	TPACK 1 PCK 1 PCK 4
11. Educators use technology to design and implement a variety of formative and summative assessments to inform instruction	ISTE E 7.2	TPACK 3

Definition of Dispositions

Professional attitudes, values, and beliefs are demonstrated through verbal and non-verbal behaviors as candidates interact with faculty and colleagues in the program. These behaviors support learning and development. A dispositional *assessment* is a measure of non-academic dispositions that serve as indicators of candidate success in their educational program and beyond to their career pathway. A dispositional assessment is completed by the candidate and by a course faculty/instructor and/or advisor at a minimum of two times in the candidate's educational process: early in the program, later in the program - as determined by individual programs.

Dispositional Indicators

The Fort Hays State University Advanced Education Programs Department is committed to preparing advanced candidates to possess the dispositions - attitudes, values and beliefs - of professionals in their chosen field, which include:

- The candidate communicates clearly, effectively, and positively.
 - Verbal and non-verbal communication skills convey respect, confidence, and enthusiasm.
 - Written communication is respectful, clear, and reflects the appropriate level of formality for the situation.
 - Responses (verbal/written, to faculty/colleagues) convey attentiveness, thought, and respect.
 - Requests/queries (verbal/written, to faculty/colleagues) convey self-reflection, advocacy, and respect.
- The candidate works well with others.
 - Collaborative relationships are successfully navigated.
 - Collaborative relationships are purposefully developed to solve problems of practice.
- The candidate demonstrates a commitment to personal learning and professional growth.
 - Learning is viewed as a lifelong endeavor.
 - Professionalism is fundamental to lifelong success.

Definition of Diversity

Diversity is a term that refers to an inclusive community with varied characteristics, ideas, perspectives, and worldviews, and whose interactions both benefit and challenge each other to grow in an ever-changing global society. Addressing diversity involves understanding individual differences, raising awareness of bias, and guiding and engaging in practices that foster mutual respect and acceptance of all groups.

Characteristics of diversity include (but are not limited to) age, cognitive style, culture, disability (intellectual, emotional, behavioral, learning, physical), economic background, education, ethnicity, gender identity, migrant status, geographic background, language(s), marital/partnered status, physical appearance, political affiliation, race, religious belief, sexual orientation, or veteran status.

Diversity Indicators

The FHSU College of Education is committed to valuing diversity and continuously monitoring, reflecting, and improving all policy, programs, procedures and relationships that further such values. The commitment of the FHSU College of Education to diversity specifically includes:

- Fostering a culture of respect, sensitivity, and interdependence among all stakeholders (students/candidates, administrators, faculty, staff, partnerships, and communities) connected to the College of Education.
- Recruiting and supporting students/candidates with a diverse set of characteristics.
- Recruiting and supporting faculty with a diverse set of backgrounds and experiences.
- Providing quality learning experiences in all our programs that result in deep understanding, sensitivity and professional practices that address diverse learners.
- Providing clinical and field experiences for our students/candidates in diverse settings that provide the opportunities to expand professional knowledge and skills that benefit all students/candidates and communities.
- Monitoring disaggregated evidence of academic quality and student progress, providing support for students/candidates who need it.

- Enabling a quality assurance system that continually reviews and improves policies and procedures to achieve our commitment to diverse learners.
- Applying principles of Universal Design for Learning by 1) presenting instruction in multiple formats; 2) continually developing new ways to engage the interests of our teacher candidates; and 3) providing a variety of forms of assessment for our students/candidates to express what they know and understand.

11. Course Schedule

This schedule is tentative and may change during the semester, depending on how the course evolves and needs of students. You will be notified of changes to the schedule in Course Announcements on the learning management system.

12. Assignments/Assessments and Course Grading

Final grades for this course are calculated based on the scale assigned by the Education Programs Department as presented below:

Final Grade	Points Earned	Percentage	Description
A	1186-1275	93% - 100%	Exemplary
B	1084-1185	85% - 92.99%	Acceptable
C	969-1083	76% - 84.99%	Developing
D	854-968	67% - 75.99%	Minimal, Not Passing
U	0-853	66.99% and below	Unacceptable
I	-	-	Incomplete

Course Assignments/Assessments

See Course Schedule and LMS for each semester's assignments and assessments.

13. Student Help Resources

Students have access to academic services, technical support and student services at Fort Hays State University. For more information you can contact Tiger Tech at 785-628-3478 or <https://www.fhsu.edu/tigertech/>

14. Course Policies

In order for you to be successful in this course, it is imperative that you prioritize your workload and utilize well developed time management skills. As an educator, you are the leader of many. You must meet deadlines just as you would expect your students to. Any unforeseen circumstances that prevent you from meeting expectations should be brought to the attention of your instructor.

15. University Policies

Academic Honesty

https://www.fhsu.edu/academic/provost/handbook/ch_2_academic_honesty/

Attendance

https://www.fhsu.edu/academic/provost/handbook/ch_2_instructional_procedures/
Withdrawal
https://www.fhsu.edu/academic/provost/handbook/ch_7_change_enrollment/
Student Accessibility Services
https://www.fhsu.edu/kellycenter/accessibility/
Kelly Center Support Services
https://www.fhsu.edu/kellycenter/
Title IX Policy
https://fhsu.edu/president/Compliance-Office/Title-IX-Policy/index.html
Career Services
https://www.fhsu.edu/career/
Technology Services
https://www.fhsu.edu/technology/
Smarthinking (Online Academic Assistance)
https://www.fhsu.edu/virtualcollege/smarthinking/

16. Program, Department, and College Policies

FHSU Student Handbook

<http://www.fhsu.edu/studenthandbook/>

Social Media Policies/Guidelines

1. Know copyright laws: Cite your work, either using correct APA formatting or including a URL link for media (e.g., photos, video). If you have questions about copyright laws, contact the Forsyth Library at FHSU (<https://www.fhsu.edu/library/>).
2. Be accurate: Always provide clear and consistent information based on research and fact.
3. Be respectful: It is acceptable to disagree, but be polite and constructive. Do not include defamatory or harmful information about any individual. Any such content will not be tolerated and may result in removal of the violator from the social media site at the discretion of the instructor.
4. Be transparent: Note that any opinions expressed are your own, and communicate in a professional and appropriate manner. Your instructor will likewise follow these guidelines: Anything that the instructor says is strictly his/her opinion and is not speaking on behalf of FHSU.
5. Safeguard others' privacy: When telling stories about real students and classroom, school, and district challenges, use pseudonyms and indicate that you are doing so. This will ensure that you are complying with state and federal privacy laws.

Syllabus Changes

I reserve the right to make changes as necessary to this syllabus. If changes are necessitated during the term of the course, I will immediately notify you of such changes both by individual email communication and by posting both notification and nature of change on the course bulletin board.

Things to Remember When Taking a Class Online

1. KEEP COPIES OF ALL ASSIGNMENTS. Technology is not perfect, so you may be asked to resubmit an assignment from time to time. If you do not have a copy, I will assume you did not do it and it is late.

2. If you run into technical problems, contact me immediately. Every attempt will be made to correct the problem ASAP. If you run into a web transmission problem, please contact me regarding an alternative to submit your assignment.
3. Use the subject line and course number in ALL e-mails to help me identify and set priorities for your messages and assignments as well as in routing it to the right course file.
4. If you are frustrated, be sure to talk to us as soon as possible.

Written Assignment Criteria

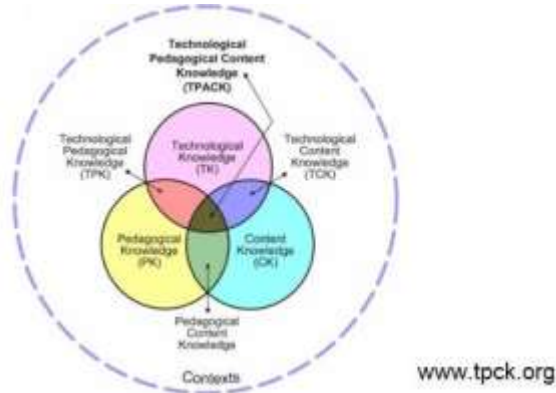
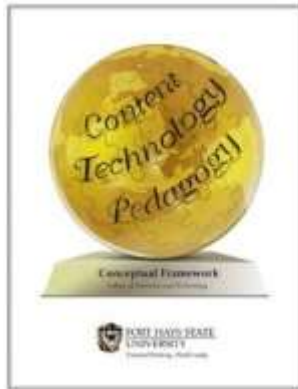
All written assignments must be typed and should conform to the basic principles of effective writing along with appropriate APA style guidelines, which is widely used in education. Also remember good writing involves an important balance of content and form.

For Virtual College students:

smarthinking.com at Fort Hays State University provides online tutoring and writing services to students who are currently enrolled as online learners. The phrase “online learner” is defined as a **currently enrolled student taking only Virtual College courses**. On-campus students have access to Academic Success Programs and the Writing Center and are therefore not eligible.

Please note that eligibility for services is determined based on a review of current semester/term information. Please feel free to contact the **Virtual College** through email at the following address: virtualcollege@fhsu.edu or call **785-628-4291**, with any questions or concerns you might have. For more information about specific services offered please click on the following link: <http://www.fhsu.edu/virtualcollege/smarthinking/>. Students will need to provide their names and FHSU ID number to confirm eligibility for Smarthinking.

Appendix A. The Shared Values and Beliefs for Professional Educators at FHSU



Technological Pedagogical and Content Knowledge (TPACK)
<i>TPACK 1</i> – Candidates integrate current and emerging digital tools to collect, analyze, and present information.
<i>TPACK 2</i> – Candidates demonstrate proficiency in oral and written communication skills.
<i>TPACK 3</i> – Candidates select, design, administer, and interpret a variety of appropriate assessments.
<i>TPACK 4</i> – Candidates incorporate theories and research to design and implement effective learning environments for all students.
Technological Knowledge (TK)
<i>TK 1</i> – Candidates model and teach safe, legal, and ethical use of digital information and technology.
Technological Content Knowledge (TCK)
<i>TCK 1</i> – Candidates design/facilitate diverse learning activities that incorporate digital tools/resources.
Content Knowledge (CK)
<i>CK 1</i> – Candidates design/facilitate lessons/opportunities that reflect content academic knowledge.
<i>CK 2</i> – Candidates design/facilitate and implement interdisciplinary units of study.
Pedagogical Content Knowledge (PCK)
<i>PCK 1</i> – Candidates make/facilitate curricular decisions based on data.
<i>PCK 2</i> – Candidates collaborate with other professionals to identify and design strategies and interventions to ensure student/teacher learning.
<i>PCK 3</i> – Candidates design/facilitate and adapt lessons/opportunities to meet diverse needs of students.
<i>PCK 4</i> – Candidates reflect on their practice and make necessary adjustments based on data to develop effective learning opportunities for all students and teachers.
Pedagogical Knowledge (PK)
<i>PK 1</i> – Candidates model the dispositions expected of professional educators as identified in state and institutional standards.
<i>PK 2</i> – Candidates engage in and reflect on professional learning opportunities.
Technological Pedagogical Knowledge (TPK)
<i>TPK 1</i> – Candidates communicate and collaborate using digital tools.

A ROADMAP FOR INNOVATING EDUCATION

Transforming education requires us to rethink how we teach and learn. The ISTE Standards act as a roadmap for bold, innovative educators and education leaders to re-engineer their schools and classrooms for digital age learning no matter where they fall on the journey to meaningful, effective ed tech integration. Want to know more? Visit the ISTE Standards frequently asked questions....



ISTE STANDARDS FOR Students

As educators, students are at the center of everything we do. The student standards describe the skills and knowledge they need to thrive, grow and contribute in a global, interconnected and constantly changing society.



ISTE STANDARDS FOR Educators

Educators have always held the key to student success. But their role is changing. The ISTE Standards for Educators define the digital age skills and pedagogical insights educators need to teach, work and learn.



ISTE STANDARDS FOR Education Leaders

The ISTE Standards for Education Leaders guide administrators in supporting digital age learning, creating technology-rich learning environments and leading the transformation of the educational landscape.