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Creating enabling technologies for differently abled people
Fall 2023 (Dates: 08/23/23 – 12/06/23)

Course No:	IDS2935		Instructor:	Dr Nigel Newbutt
Credits:	3 hours		Email:	Nigel.newbutt@coe.ufl.edu
Class time:	Face-to-Face Thursday Period 4-6 10.40-1.40pm NRN1025		Office Hours:	Thursday, 5-6pm, by appointment on Zoom

Course Description:

Technologies are becoming pervasive across many parts of society, industry and are common to working practices and education in around the globe. However, are they being used to enable people who may stand to benefit from them most? This Quest 2 course will address questions facing society around how, where and why technologies may support under-served groups: specifically, people who are differently abled. The course will ask questions like: How and why can technology be used, designed and applied to benefit people with disabilities? What are the ethical and moral implications for designing technology for disabled groups without their input and guidance? What are the dilemmas facing disabled groups and why should technologies be used? This Quest 2 course will examine the field of assistive technologies from a range of disciplinary perspectives. Current challenges and problems facing individuals with disabilities are profound and in fact increasing. For example, autistic groups are underrepresented in the workforce and education beyond that of compulsory education. However, recent advances in technology have enabled researchers, practitioners and professionals to identify and apply a range of solutions to close the gap for disabled groups facing challenges in education and employment. However, and despite these positive advancements, work in this field tends to neglect the input and considerations of disabled groups and their stakeholders.

Course Prerequisites:
- None

Course Objectives:
1. **Content**: *Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline(s).*
   - Co1: Identify, describe, and explain key themes, principles, and terminology; the history, theory and/or methodologies used; and social institutions, structures and processes (Quest 2, S). Assessment: *Essay, e-portfolio.*
   - Co2: Critique a range of discourse in disability studies with a focus on social and medical-based models as related to technological innovation(N). *Assessment: Essay, e-portfolio, design proposals.*
   - Co3: Describe a range of technologies applied to the lives of people with disabilities and ways to evaluate these tools/technologies (S). *Assessment: Design proposals.*
2. **Critical Thinking**: *Critically analyze quantitative or qualitative data appropriate for informing an approach, policy, or praxis that addresses some dimension of an important societal issue or challenge*
   - CT1: Apply formal and informal qualitative or quantitative analysis effectively to examine the processes and means by which individuals make personal and group decisions. Assess and analyze ethical perspectives in individual and societal decisions. (Quest 2, S). *Assessment: Design Proposals, analytical essay.*

- CT2: Evaluate the efficacy of design approaches to new technologies for people with disabilities. *Assessment: In-class/online discussions.*
3. **Communication**: *Develop and present, in terms accessible to an educated public, clear and effective responses to proposed approaches, policies, or practices that address important societal issues or challenges*
   - Com1: Communicate knowledge, thoughts and reasoning clearly and effectively. (Quest 2, S). *Assessment: Debates, Presentation.*
   - Com2: Propose potential solutions for feeding a growing global population in a healthful, economically feasible, and environmentally responsible way, and identify potential barriers to implementing such solutions (S). *Assessment: Design proposals, in-class / online discussions.*
4. **Connection**: *Connect course content with critical reflection on their intellectual, personal, and professional development at UF and beyond*
   - Conn1: Reflect on how you, as an individual, and you, as a part of a community, can personally contribute now and in your career to issues impacting individuals with a range of conditions and disabilities. (Quest 2). *Assessment: e-portfolio, in-class / online discussions.*

Teaching and Learning Strategies:
You are responsible for logging on to Canvas and completing the assigned readings, participating in class activities (forums or uploads) and taking notes on the materials as you see necessary for class discussions and activities. You are also expected to check your Gatorlink email regularly as this is the way I will contact you if needed.

There are variety of learning activities within this course. For example, you will be prompted to participate in our in-class (or online) activates in each module. You will also be asked to participate in-class discussion (or online if specified) with your peer. A major portion of the course consist of assignments and hands-on projects. You will also be asked to build an E-Portfolio to present all your projects during the class.

In-class Activities – Expectations:
During the in-class lab meetings there will be discussions, activities, group work, guided practice, and individual study. The lab period is organized to familiarize you with innovative technologies and concepts related to educational technology. Each week you will be provided with opportunities to develop an understanding for how these technologies can be used in your daily life as well as in your field. Weekly attendance is required and expected.

Instructor Response Time:
Please allow 24-48 hours for the instructor to respond to your messages/emails. Messages/emails sent during weekends may not be responded until the following week.

Required Readings:
A textbook is not required for this course. The course site in CANVAS includes links to all required resources (e.g. readings, activity templates, content presentations, etc.), video tutorials, and the selected journal articles.

Technology Requirements:
a) This course is designed with the assumption that students have the following basic technology skills and knowledge: a) connecting to the Internet, b) attaching files via email and sending email messages, c) using word processing software packages, d) copying and pasting, e) downloading and installing software and d) using and navigating LMS Canvas.
b) Access to a modern personal computer and a reliable Internet connection

c) Each student will need access to the standard Microsoft Office Suite (Word, PowerPoint & Excel). Adobe Reader, an internet browser (Firefox, Chrome, Edge, etc.) and a media player (e.g., QuickTime, VideoLan Player, Windows Media Player).
d) Students' knowledge and operation of their own computer and OS is their personal responsibility.

Technology Support:
If you are having any technical issues please do one of the following:
a) Contact UF computing help desk at https://helpdesk.ufl.edu , Available 24 hours a day, 7 days a week, (352) 392-HELP (4357), helpdesk@ufl.edu.
b) You can also submit a request ticket by clicking on the HELP tab on the left side of every page in the course;

Course Policies and Expectations:
Attendance, Make-Up Exams and Assignments
a) Students must log in to the class in Canvas during the first two days of the term in order to fulfill the attendance policy of attending the first-class meeting. Students not logging into the course during that period may be dropped from the class in order to permit access to those on the waiting list.
b) Participation and attendance in the lab are both important to your progress and understanding of the course content. You will be missing out on much of this course's content and usefulness if you miss lectures or in-class activities. In-class activities will be given, and attendance will be taken throughout the semester. Many of the activities in class are designed to provide you with a deeper understanding of the course material as well as give you more context and guidance about important concepts. As this is a blended class, missing out on the lab means you will be missing a significant portion of the class and therefore regular attendance is in your best interest. *Attendance is required and expected.* If you have scheduling conflicts you can set up a time to meet with the instructor to get you caught up and back on track. For an absence to be excused, you must speak with the instructor at least a week beforehand (i.e., a planned family gathering, sports obligation etc.) or ASAP (i.e., unexpected emergency, sickness).
c) No assignment will be accepted after the deadline unless the inability to study is documented for medical reasons. The instructor reserves the right to deduct 20 % of the assignment points per day. In order to receive full credit for work, students must turn in required deliverables in Canvas or E-Portfolio on the specified due date.
    If a student has a disability, as defined by the Americans with Disabilities Act (ADA), which requires accommodation for learning, student is obligated to inform the instructor of his/her needs during the first week of class so that the appropriate action is taken. University of Florida requires that students requesting accommodation for disabilities must first register with the Dean of Students Office (https://disability.ufl.edu). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. All accommodation requests (for example, extended period for assignment submission) will be accordingly addressed.
    The instructor reserves the right to deduct 20 % of the assignment points per day. In order to receive full credit for work, students must turn in required deliverables in Canvas or ePortfolio on the specified due date.
d) Class absences will impact your grade as follows: 2 unexcused absences —one grade level reduction; 4 unexcused absences —one grade level reduction; more that 5 unexcused absences you will be asked to drop the course. The instructor reserves to handle excused absences on a case-by-case basis.
e) LMS Canvas will be used for course delivery and communication. All questions related to the course material should be submitted to the instructor either using the Canvas messaging or UF email service. Please use your official UF email account for all communication with the instructor. The instructor reserves the right to not answer email messages sent from non-UF email accounts such as Yahoo, Hotmail or Gmail. In addition, it is very important for students to read UF emails frequently since this is how the instructor will communicate vital information to all students.

f) Students are expected to devote at least 3-5 hours a week to browsing the tutorials and readings, participating in discussions, and working on projects in order to satisfy all course objectives. Ideally, you should work on the weekly activities over the course of the entire week, rather than wait until the weekend and rush through everything.
g) The effect of low in-class participation upon grades is determined by the instructor, who reserves the right to address individual cases. In order to receive full credit for work, students must turn in required deliverables in Canvas or E-Portfolio on the specified due date.

Netiquette
Mutual respect is essential for any positive learning environment. Respect for both classmates and the instructor are mandatory and will be adhered to in both face-to-face and online interactions. All online assignments/forum and classroom interactions must be appropriate. All members of the class are expected to follow rules of common courtesy in all messages and communication with your peers and instructor during the class.

Accommodations for Students with Special Needs:
Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. Click here to get started with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Academic Honesty:
The Honor Code (The Orange Book) specifies a number of behaviors that are in violation of this code and the possible sanctions. Click here to read the Conduct Code. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

Plagiarism is the serious ethical violation of presenting other people's words, work, or ideas as your own. All students are responsible for upholding the code of academic integrity as described by the school polices and the Honor Code. Failure to do so can result in a failing grade on an assignment.

Software Use
All faculty, staff, and students of the University of Florida are required and expected to obey laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

Acceptable Use Policy:
Please read the University of Florida Acceptable Use Policy. It is expected that you abide by this policy.

UF Academic Resources and other Important Information:
UF offers the following academic supports, which you are invited to use to boost your success in this course:
a) E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. https://lss.at.ufl.edu/help.shtml
b) Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. https://career.ufl.edu
c) Library Support, http://cms.uflib.ufl.edu/ask . Various ways to receive assistance with using the libraries or finding resources.
d) Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu
e) Writing Studio, 302 Tigert Hall, 846-1138. Help with brainstorming, formatting, and writing papers. http://writing.ufl.edu/writing-studio

f) On-Campus Student Complaints: https://registrar.ufl.edu/writtencomplaints
g) University Counseling Services: 352-392-1575, http://www.counseling.ufl.edu/cwc
h) UF Student Financial Aid: https://www.sfa.ufl.edu
i) Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, for sexual assault counseling.
j) Student Mental Health, Student Health Care Center, 392-1171, for personal counseling.
k) University Police Department: 352-392-1111 or 9-1-1 for emergencies

In addition to the university academic supports listed above, the following student COE service resources are available:
- EduGator Central: Visit this office virtually or in person for a variety of advising supports.
- Academic advisors: Contact your advisor in your college for support. For Education Sciences Majors, the two advisors are Aaron Ganas and Earl McKee.

Module 1 = Intro and models of disability
Module 2 = Research in disability & technology
Module 3 = Cast studies
Module 4 = Design challenge #1
Module 5 = Theories and ethics
Module 6 = Design challenge #2
Module 7 = Design challenge #3
Module 8 = Wrap up/refresh/showcase

Schedule

Week	Topics, Homework, and Assignments
Week 1 MOD.1	**Topic:** Introduction and getting started (key terms and disciplines) **Summary:** Introduction to the questions being explored around: (1) How can technology be used, designed and applied to benefit people with disabilities?; (2) What are the ethical and moral implications for designing technology for disabled groups without their input and guidance?; (3) What are the dilemmas facing disabled groups and why should technologies be used? **Required Readings/Works (all provided via canvas as PDFs)**: - Newbutt, N., Schmidt, M. M., Riva, G., & Schmidt, C. (2020). The possibility and importance of immersive technologies during COVID-19 for autistic people. Journal of Enabling Technologies, 14(3), pp. 187-199 *(read all pages)*. - Sullivan, W. F., Heng, J., & Bach, M. (2021). Promoting Decision Making Capabilities in the Healthcare of Adults with Intellectual and Developmental Disabilities: Ethics and Practice. In Decision Making by Individuals with Intellectual and Developmental Disabilities (pp. 47-64). Springer, Cham *(read pages 47-58)*. - Read through this link to a gaming charity (who we meet/speak to later in the course): https://www.specialeffect.org.uk/what-we-do/our-work **Assignment:** Set up e-portfolio (25 points) and discussion 1 (online) (40 points). - Due: Sunday, week 2, 11.59pm.
Week 2 MOD.1	**Topic:** Models of disabilities (social vs medical) **Summary:** What are the various societal perspectives on disability and why do these exist? What are the challenges associated with the range of perspective and how/where do people with disabilities input to this discussion/debate?

Week	Topics, Homework, and Assignments
	• **Required Readings/Works (all provided via canvas as PDFs)**: o Botha, M., Dibb, B., & EFrost, D. M. (2020). " Autism is me": an investigation of how autistic individuals make sense of autism and stigma. Disability & Society, 1-27 *(read pages 1-15)*. o Hogan, A. J. (2019). Social and medical models of disability and mental health: evolution and renewal. CMAJ, 191(1), E16-E18. *(read pages 16-18)*. • **Assignment:** Literature review essay (100 points). o Due: Sunday, week 4, 11.59pm.
Week 3 MOD.2	• **Topic:** Researching and measuring outcomes for technology-enabled supports for people with neurodiversity. • **Summary:** We will explore the ways research is conducted in this field and consider both qualitative and quantitate types of data capture and handling. What is research in this field and how do we measure the appropriateness and outcomes of using various types of technologies in this field? • **Required Readings/Works (all provided via canvas as PDFs)**: o Newbutt N, Sung C, Kuo HJ, Leahy MJ, Lin CC, Tong B. (2016). Brief Report: A Pilot Study of the Use of a Virtual Reality Headset in Autism Populations. J Autism Dev Disord. 46(9):3166-76 *(read all pages)*. o Wang, R. H., Kenyon, L. K., McGilton, K. S., Miller, W. C., Hovanec, N., Boger, J., ... & Czarnuch, S. M. (2021). The Time Is Now: A FASTER Approach to Generate Research Evidence for Technology-Based Interventions in the Field of Disability and Rehabilitation. Archives of Physical Medicine and Rehabilitation, 102(9), 1848-1859 *(read pages 1848-1855)* • **Assignment:** Discussion 2 (online) (40 points). o Due: Sunday, week 4, 11.59pm.
Week 4 MOD.2	• **Topic:** Guest speaker from a technology field (UF, Computer Science) and Psychology (UF Spatial Cognition and Navigational Neuroscience lab). • **Summary:** Students will be provided an overview of work that connects to the course that is being undertaken in two disciplines that are core and central to the course; namely psychology and computer science. Professors from both will provide an overview of leading developments in their fields as related to disability and enabling technologies. • **Required Readings/Works (all provided via canvas as PDFs)**: o Olkin, R., & Pledger, C. (2003). Can disability studies and psychology join hands?. American Psychologist, 58(4), *read pages 296-301* o Chatterjee, A., Aceves, A., Dungca, R., Flores, H., & Giddens, K. (2016, September). Classification of wearable computing: A survey of electronic assistive technology and future design. In 2016 Second International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN) (pp. 22-27). IEEE. *(read all pages)*. • **Assignment:** Online class discussion (40 points). o Due: Sunday, week 5, 11.59pm.
Week 5 MOD.3	• **Topic:** Case studies from the field of technology and disability #1

Week	Topics, Homework, and Assignments
	• **Summary:** This weeks' work will involve a presentation of case studies that the students will learn about and work in small groups to extrapolate how and why technology was used and the impact it has. Considerations of fairness and designing for 'everyone; will be a core focus. • **Required Readings/Works (all provided via canvas as PDFs)**: o Review this website and materials: https://www.floreotech.com/ (all four sections of the website). o Review this website and read all the material on this site (should take 45-60 mins): https://www.artefactgroup.com/ideas/technology-for-everyone/ o Flórez-Aristizábal, L., Cano, S., Collazos, C. A., Solano, A. F., & Brewster, S. (2019, May). Designability: Framework for the design of accessible interactive tools to support teaching to children with disabilities. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (pp. 1-16) *(read pages 1-5).* • **Assignment:** e-portfolio refection (20 points). o Due: Sunday, week 5, 11.59pm.
Week 6 MOD.3	• **Topic:** Case studies from the field of technology and disability #2 • **Summary:** This weeks' work will include further case studies and a guest speaker who works in designing technology for disabled groups. Further deconstructing what works and how it aligns to the abilities of people with disabilities will inform and prepare students for next week's project (design proposal #1). • **Required Readings/Works (all provided via canvas as PDFs)**: o Shinohara, K., Bennett, C. L., Pratt, W., & Wobbrock, J. O. (2018). Tenets for social accessibility: Towards humanizing disabled people in design. ACM Transactions on Accessible Computing (TACCESS), 11(1), 1-31 *(read pages 1-6).* • **Assignment:** e-portfolio refection (20 points) and online class discussion (40 points). o Due: Sunday, week 6, 11.59pm.
Week 7 MOD.4	• **Topic:** Design proposal #1 • **Summary:** Students will be provided with a tutor-set brief to design for a specific group of people and a choice of 3 technologies they can use to apply a solution to challenges facing this group. The session will enable some self-reflection and time for the students to research in the session and receive feedback. • **Required Readings/Works**: o N/A this is a practical session that includes group work, tutor input/feedback and micro-presentations (from the students). • **Assignment:** Design proposal #1 (100 points) and e-portfolio reflection (20 points). o Due: Sunday, week 7, 11.59pm.
Week 8 MOD.5	• **Topic:** Theory into Practice • **Summary:** This week will consider theories and under-pinning contexts that can inform our practice of applying technologies. Students will uncover the benefits of applying theories to their practice as well as the challenges and pitfalls. We will also start to ask questions about who guides research and practice in this field. • **Required Readings/Works (all provided via canvas as PDFs)**: o Lowyck, J. (2014). Bridging learning theories and technology-enhanced environments: A critical appraisal of its history. In Handbook of research

Week	Topics, Homework, and Assignments
	on educational communications and technology (pp. 3-20). Springer, New York, NY. *(read all pages).* o Tennyson, R. D. (2010). Historical reflection on learning theories and instructional design. Contemporary educational technology, 1(1), 1-16. *(read first 5 pages).* • **Assignment:** N/A
Week 9 MOD.5	• **Topic:** Ethics of researching with and for people with disabilities • **Summary:** We explore the moral and ethical issues related to working with and designing for disabled people. We will engage with critical reading in this field and better position our views of why and how we can design effectively and ways to move towards greater co-design paradigms. We connect this week's work with week 2 (social vs medial models of disability). • **Required Readings/Works (all provided via canvas as PDFs)**: o Goggin, G. (2009). Disability and the ethics of listening. Continuum, 23(4), 489-502. *(read pages 489-499).* o Allsop, M. J., Holt, R. J., Levesley, M. C., & Bhakta, B. (2010). The engagement of children with disabilities in health-related technology design processes: Identifying methodology. Disability and Rehabilitation: Assistive Technology, 5(1), 1-13. *(read all pages).* o Parsons, S., Guldberg, K., Porayska-Pomsta, K., & Lee, R. (2015). Digital stories as a method for evidence-based practice and knowledge co-creation in technology-enhanced learning for children with autism. International Journal of Research & Method in Education, 38(3), 247-271. *(read conclusions and introduction sections)* • **Assignment:** e-portfolio refection (20 points) and analytical essay (250 points) set o Due: Sunday, week 5, 11.59pm (e-portfolio reflection). o Due: Sun, week 15, 11.59pm (analytical essay).
Week 10	**SPRING BREAK**
Week 11 MOD.6	• **Topic:** Design proposal #2 (part 1) • **Summary:** Students will be provided with a tutor-set brief to design for a specific group of people and a choice of 3 technologies they can use to apply a solution to challenges facing this group. The session will enable some self-reflection and time for the students to research in the session and receive feedback. • **Required Readings/Works**: o N/A this is a practical session that includes group work, tutor input/feedback and micro-presentations (from the students). • **Assignment:** None
Week 12 MOD.6	• **Topic:** Design proposal #2 (part 2) • **Summary:** Students will be provided with a tutor-set brief to design for a specific group of people and a choice of 3 technologies they can use to apply a solution to challenges facing this group. The session will enable some self-reflection and time for the students to research in the session and receive feedback. • **Required Readings/Works**: o N/A this is a practical session that includes group work, tutor input/feedback and micro-presentations (from the students). • **Assignment:** Design proposal #3 (100 points) and e-portfolio reflection (20 points).

Week	Topics, Homework, and Assignments
	o Due: Sunday, week 13, 11.59pm.
Week 13 MOD.7	• **Topic:** Design proposal #3 • **Summary:** Students will be provided with a tutor-set brief to design for a specific group of people and a choice of 3 technologies they can use to apply a solution to challenges facing this group. The session will enable some self-reflection and time for the students to research in the session and receive feedback. • **Required Readings/Works**: o N/A this is a practical session that includes group work, tutor input/feedback and micro-presentations (from the students). • **Assignment:** Design proposal #3 (100 points) and e-portfolio reflection (20 points). o Due: Sunday, week 13, 11.59pm.
Week 14 MOD.7	• Tutorials and essay preparation (part taught and part tutorials to review essay progress and to enable feedback). o Students to present their e-portfolios in their entirety (90 points) and due, week 15, 11.59pm.
Week 15 MOD.8	• **Topic:** Review and summarize. • **Summary:** This week we reflect and look back. Students will be expected to share their thoughts, reflections and prepare a short Pecha Kucha presentation to share with the class; they will highlight a reflection and core take-away messages. • **Required Readings/Works**: o None • **Assignment:** Completed e-portfolio and analytical essay. o Due: Sunday, week 15, 11.59pm.

NOTE: Changes may be made at the discretion of the course instructor.

Method of Evaluation:

Assignment	Assignment Description	Purpose	Words	Grade
Literature review essay	An essay that connects a range of literature and explores the tensions between social and medical models of disabilities, Students will personally reflect on this in their essay.	Synthesize and analyze paradigms in the field that sit across disciplines and ontologies.	Do not count towards the WR	100
In class / online discussions	Students will respond to 5 discussion fora that align to theoretical and practical aspects of technologies applied to / and for disabled groups. The 5 discussions will include: 1. Theories that relate to technology-enabled learning (40) 2. Alignment of theories to practice (40) 3. Development of technologies to enable a range of disabled users (40)	Develop and present clear responses to essential and underpinning questions; with a personal and reflective account (responding to peers).	2,500	200

	4. In-situ technology (classrooms, workplace, etc…) (40) 5. Evaluation of technology by disabled users (40)			
Design proposals	Three design proposals (100 credits each) that respond to a specific tutor-set brief. Students will work in small groups (for 2 responses) and individually (for 1 response). The responses will draw specific technologies and areas of disability (i.e. virtual reality and autism). This assessment will include a formal presentation with time for peer and tutor feedback/discussion. **Note: this component will include an experiential learning opportunity.**	Design, propose and present (articulate) their ideas to peers, tutors and end users.	N/A	300 Note: All group members will be assigned the same grade for this component based on the final artifact and presentation given.
Portfolio and reflection	In an e-portfolio, students will present their work, and especially their design proposals, and reflect on their solutions at various points throughout the course. They will include reflections on their assumptions about the groups they designed for and what this tells them about their ontologies and epistemologies. This component will also include three mini-essays (250-300 words) that encourage the students to reflect on their assumptions of disabilities and how technology can empower such people. **Note: this component will include an opportunity to engage with self-reflection.**	Connect course content to own lives Reflect and consider issues impacting disabled people and how society impact this	N/A	60 (for mini-essays); 90 (for portfolio); 150 total
Analytical Essay	*Note: This counts towards the writing assignment.* Write a 2,000-word analysis that describes and analyze one of your responses to the design briefs. Students will focus on only one and complete a deep dive into the design proposal with an analytical lens and compare/contrast their ideas to at least 5 scholarly (peer-reviewed) sources.	Analyze and evaluate essential educational technology questions	2000	250
			4,500	**1000**

Course Requirements:
1. **Projects**: There are many projects that have to be completed during the semester. Detailed instructions for creating each of the course projects and lab exercises will be discussed in the class and provided via CANVAS.
2. **Exams:** There are no exams.
3. **Class participation & attendance:**
    o   Students are required to set their own schedule to complete class readings and assignments.
    o   Students will also be evaluated based on their participation in class activities.

Grading Scale:

93% - 100%	A	Excellent performance	73% - 76%	C	Fair performance
90% - 92%	A-		70% - 72%	C-	
87% - 89%	B+		67% - 69%	D+	
83% - 86%	B	Good performance	63% - 66%	D	Poor performance
80% - 82%	B-		60% - 62%	D-	
77% - 79%	C+		59% or below	F	Fail

Writing Assessment Rubric and Statements

	SATISFACTORY (Y)	UNSATISFACTORY (N)
CONTENT	Papers exhibit at least some evidence of ideas that respond to the topic with complexity, critically evaluating and synthesizing sources, and provide at least an adequate discussion with basic understanding of sources.	Papers either include a central idea(s) that is unclear or off-topic or provide only minimal or inadequate discussion of ideas. Papers may also lack sufficient or appropriate sources.
ORGANIZATION AND COHERENCE	Documents and paragraphs exhibit at least some identifiable structure for topics, including a clear thesis statement but may require readers to work to follow progression of ideas.	Documents and paragraphs lack clearly identifiable organization, may lack any coherent sense of logic in associating and organizing ideas, and may also lack transitions and coherence to guide the reader.
ARGUMENT AND SUPPORT	Documents use persuasive and confident presentation of ideas, strongly supported with evidence. At the weak end of the Satisfactory range, documents may provide only generalized discussion of ideas or may provide adequate discussion but rely on weak support for arguments.	Documents make only weak generalizations, providing little or no support, as in summaries or narratives that fail to provide critical analysis.
STYLE	Documents use a writing style with word choice appropriate to the context, genre, and discipline. Sentences should display complexity and logical sentence structure. At a minimum, documents will display a less precise use of vocabulary and an uneven use of sentence structure or a writing style that occasionally veers away from word choice or	Documents rely on word usage that is inappropriate for the context, genre, or discipline. Sentences may be overly long or short with awkward construction. Documents may also use words incorrectly.

	tone appropriate to the context, genre, and discipline.	
MECHANICS	Papers will feature correct or error-free presentation of ideas. At the weak end of the Satisfactory range, papers may contain some spelling, punctuation, or grammatical errors that remain unobtrusive so they do not muddy the paper's argument or points.	Papers contain so many mechanical or grammatical errors that they impede the reader's understanding or severely undermine the writer's credibility.

- The Writing Requirement (WR) ensures students both maintain their fluency in writing and use writing as a tool to facilitate learning.
- The instructor will evaluate and provide feedback before the end of the course on all of the student's written assignments with respect to grammar, punctuation, clarity, coherence, and organization.
- WR course grades have two components. To receive writing requirement credit, a student must receive a grade of C or higher and a satisfactory completion of the writing component of the course.

More information on UF grading policy may be found at:
- UF Graduate Catalog
- Grades and Grading Policies

Course Evaluation:
Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://gatorevals.aa.ufl.edu/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.