

Education & Computers

05:300:350, Section 96, Spring 2021, Online

Instructor: Jen Chingwe, Ed.D.

Class Schedule: 1/19/2021 – 5/3/2021	Instructor Email: Canvas Inbox or jchingwe@rutgers.edu
Mode of Instruction: Online/asynchronous. There are no in-person classes or required meeting times.	Phone Number: 919-400-2745 (cell)
Course Website: https://canvas.rutgers.edu	Office Hours: Tuesdays, 5:00 – 5:30 pm ET
Prerequisites or other limitations: None	Permission required: No
Required Texts: None. All readings are provided via link or PDF.	Required Equipment: Computer, internet access, microphone, video camera

Course Description

Education & Computers establishes a foundation for using the computer and technology in a variety of educational settings across all subject areas. The course is hands-on in nature, with a focus on current trends. Additionally, learners can expect to discuss theory, practice, and social/philosophical issues related to the use of computers in education. Some familiarity with computers is recommended; no prior computer skills are required.

Course Learning Objectives

By the end of the course, you should be able to:

- Provide a foundation for using computers and technology effectively in the classroom.
- Improve understanding of computers and technology to support the first goal.
- Discuss the advantages and limitations of computers and computer-based technologies in the classroom.
- Understand how teachers plan effective learning activities with computers and computer-enhanced lessons.
- Demonstrate an understanding of the roles of teaching standards such as the [New Jersey Student Learning Standards \(NJSLS\) for Technology](#) and [ISTE NETS](#) in learning and teaching.
- Apply technology to develop 21st-century literacy skills, higher-order skills, and creativity.
- Employ the basic principles of multimedia design for educational activities.
- Establish familiarity with trending topics in technology and provide an assessment (both highlights and pitfalls) of those trends as they relate to learning and teaching.
- Provide discourse on social, equity, ethical, accessibility, and legal issues surrounding the use of technology in learning and teaching.
- Analyze the relationship that technology has to equitable access to high-quality education.
- Examine and reconsider knowledge and beliefs about the role of technology in the classroom.
- Utilize computers and technology to support professional growth.

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Disability Policy: Rutgers University welcomes students with disabilities into all the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.



SAS Core Curriculum Learning Goals Met by this Course: **CCO**

Analyze the relationship that science and technology have to a contemporary social issue.

For a complete list of Core Curriculum learning goals,

see: <https://sasoue.rutgers.edu/docman-docs/curriculum/858-revised-core-curriculum-5-2018-1/file>

For more information about the SAS Core see: <https://sasundergrad.rutgers.edu/degree-requirements/core>

Course Organization, Grading, & Policies

Course Organization: This course is organized into six modules. Each module includes learning content, discussions, and topical assignments and activities.

Module	Weeks	Date Range
Module 1: Educational Technology & Theory	1 & 2	1/19 to 1/31
Module 2: Technology	3 & 4	2/1 to 2/14
Module 3: Networking	5, 6, & 7	2/15 – 3/7
Module 4: Collaboration	8, 9, & 10	3/8 – 4/4
Module 5: Multimedia	11 & 12	4/5 – 4/18
Module 6: Technology Integration	13 & 14	4/19 – 5/3

Grading Scale: Your final grade is based on a 100-point scale.

Letter Grade	Points
A	90 - 100
B+	87 - 89
B	80- 86
C+	77 - 79
C	70 - 76
D	60 - 69
F	59 and below

Assignment Point Values: All assignments and discussions add up to a total of 100 points, as follows. Grades for each assignment will be posted in Canvas as soon as they are graded.

Module	Points	Assignments
1	1	Discussion: Standards
1	3	Assignment/Discussion: Learning Theories
2	3	Assignment/Discussion: Technology/ Standards
2	6	Collaborative Project: 21 st Century Technology Toolkit
3	3	Discussion: Internet Safety
3	6	Assignment/Discussion: Website Evaluation
3	1	Discussion: Professional Development
3	10	Website Project – Part 1: Proposal & Wireframe
4	1	Discussion: Social Learning
4	1	Discussion: Social/Collaborative Tools
4	12	Website Project – Part 2: Develop Live Website
4	10	Website Project – Part 3: Reflection & Peer Review
5	9	Assignment: Student Guest Lecture (partner project)
5	3	Discussion: Student Guest Lecture Peer Feedback
6	30	Assignment: Classroom Technology Resource Review Presentation (includes peer review)
6	1	Discussion: Emerging Technologies
Total Points	100	

Grading Policies: Care, respect and integrity are expected in written and classroom exchanges. All written work, including postings on Canvas, should be proofread for clarity, spelling, and grammar. Please use language that is appropriate for the classroom setting and maintain a professional tone in both Canvas postings and classroom discussions. Outside sources, in any assignment, must be referenced appropriately (either APA or Chicago style is

acceptable).

Graded assignments cannot be missed except in case of a serious issue. If you miss an assignment for another reason, it is at my discretion whether to allow a make-up. If there are questions or an assignment cannot be completed, contact me as soon as possible. Illness will require a doctor's note. Missing any assignment without discussing it with the instructor will result in a grade of 0 for that portion of the course. Certain late assignments may be accepted for partial credit as outlined in the assignment itself.

Email policy: course updates and other important communication will occasionally be emailed to you. **You are responsible for all course-related email**, so please check your mail regularly, and be sure you are not losing messages to a spam box. The course website on Canvas is populated with your email address as it stands in the University directory at the time when you enroll in the course, so be sure you are checking your official University email account. **Note:** *You can add a personalized email address to Canvas by clicking on the "Account" tool on the left-side red bar. Click "Account" and then "Settings". You will see "Ways to Contact" on the right side. Just press "+ Email Address" to add yours!*

Absence Policy: You are expected to attend all classes. If you expect to miss any classes, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to me.

Academic Integrity: All issues of academic integrity are referred to the Rutgers University policy on academic integrity. I expect that you will comply with standards of academic integrity in this course. Assignments should be your own work, except in the case of a required group product. The consequence for violating policies of academic integrity and other elements of the student code of conduct are serious and can have a tremendous negative impact on your academic progress and future career. Refer to <http://academicintegrity.rutgers.edu/academic-integrity-policy> for a full explanation of policies.

Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com (directly or via learning management system, i.e. Sakai, Blackboard, Canvas, Moodle) for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site. **Students who do not agree should contact the course instructor immediately.**

Course Schedule by Module
Spring Semester 2021

Please note: If there is a discrepancy in due dates between the syllabus and Canvas, please go by the dates listed in Canvas.

Module 1 – Education Technology & Theory (Weeks 1 - 2)	
<p>Week 1 (1/19 - 1/24)</p> <ul style="list-style-type: none"> • Discussion: Introduce Yourself (POST by 1/24) • Discussion: Standards (1 pt.) (POST by 1/24, REPLY to two peers by 1/26) 	<p>Learning Objectives</p> <ul style="list-style-type: none"> • Describe educational technology and its role and impact in today's learning environments. • Articulate the key national and state standards for learners. • Define the behaviorist, cognitive, and constructivist learning theories and why they are relevant when implementing technology in the classroom. • Use learning theory to present your personal views on the relationship between teaching, learning, and technology. <p>Lectures & Readings – See Canvas</p>
<p>Week 2 (1/25 – 1/31)</p> <ul style="list-style-type: none"> • Assignment/Discussion: Learning Theories (3 pts.) (POST by 1/28, REPLY to two peers by 1/31) 	
Module 2 – Technology (Weeks 3 - 4)	
<p>Week 3 (2/1 - 2/7)</p> <ul style="list-style-type: none"> • Assignment/Discussion: Technology/Standards (3 pts.) (POST by 2/4, REPLY to two peers by 2/7) 	<p>Learning Objectives</p> <ul style="list-style-type: none"> • Identify several broad types of technology and how they can be applied in the classroom to facilitate learning. • Begin to consider ways to apply technology to develop students' 21st Century literacy skills, critical thinking skills, and creativity. • Identify the difference between academic and administrative software. <p>Lectures & Readings – See Canvas</p>
<p>Week 4 (2/8-2/14)</p> <ul style="list-style-type: none"> • Collaborative Project: 21st Century Technology Toolkit (6 pts.) (POST by 2/11, REPLY to two peers by 2/14) 	

Module 3 – Networking (Weeks 5 – 7)

Week 5 (2/15 - 2/21)

- **Discussion: Internet Safety** (3 pts.)
(POST by 2/18, REPLY to two peers by 2/21)

Week 6 (2/22 – 2/28)

- **Assignment: Website Evaluation** (6 pts.)
(POST by 2/25, REPLY to two peers by 2/28)

Week 7 (3/1 – 3/7)

- **Discussion: Professional Development** (1 pt.)
(POST by 3/4, REPLY to two peers by 3/7)
- **Website Project: Part 1** (10 pts.)
(DUE 3/7, end of Week 7)

Learning Objectives

- Consider how networking and the Internet have changed teaching and learning.
- Identify advantages and risks of Internet use in the classroom.
- Analyze issues related to website validity and safety.
- Locate and evaluate instructional support websites, classroom management and academic tools, and teaching resources that are available on the Internet.

Lectures & Readings – See Canvas

Module 4 – Collaboration (Weeks 8 – 10)

Week 8 (3/8 - 3/12)

- **Discussion: Social Learning** (1 pt.)
(POST by 3/10, REPLY by 3/12)

SPRING BREAK: 3/13 - 3/21 NO CLASS

Week 9 (3/22-3/28)

- **Discussion: Social/Collab. Tools** (1 pt.)
(POST by 3/25, REPLY by 3/28)
- **Website Project: Part 2** (12 pts.)
(DUE 3/28, end of Week 9)

Week 10 (3/29 - 4/4)

- **Website Project: Part 3** (10 pts.)
(DUE 4/4, end of Week 10)
- **Discussion: Find a Partner**
(FIND a partner by 4/5 for Student Guest Lecture assignment due Week 12)

Learning Objectives

- Analyze the impact of social connections and participatory culture on facilitating learning.
- Identify the elements of the Community of Inquiry theoretical framework for online teaching and learning.
- Identify and critique various social and collaborative tools and explain their role in teaching and learning.
- Identify advantages of using weblogs and wikis to facilitate learning.
- Analyze issues related to weblog and wiki safety.
- Compare the roles of stakeholders (students, parents, teachers, community) in supporting the appropriate use of technology in education.

Lectures & Readings – See Canvas

Module 5 – Multimedia (Weeks 11 – 12)

Week 11 (4/5-4/11)

- **Assignment: Student Guest Lecture** (9 pts.)
(DUE 4/14, also post to discussion in Week 12)

Week 12 (4/12 – 4/18)

- **Discussion: Student Guest Lecture Peer Feedback** (3 pts.)
(POST student guest lecture by 4/14, peer feedback by 4/18)

Learning Objectives

- Describe multimedia learning theory.
- Analyze how audio/visual media support teaching and learning (Web 2.0 multimedia).
- Describe multimodal literacies and how they support differentiated learning.
- Understand copyright and fair use related to audio and visual media.

Lectures & Readings – See Canvas

Module 6 – Technology Integration (Weeks 13 – 14)

Week 13 (4/19 – 4/25)

- **Assignment: Classroom Technology Resource Review** (25 pts)
(DUE 4/28, peer review by 5/2)

Week 14 (4/26 - 5/2)

- **Discussion: Emerging Technologies** (1 pt.)
(POST by 4/29, REPLY by 5/2)
- **Discussion: Your Suggestions** (due 5/2)

Learning Objectives

- Identify pros and cons of distance and blended learning.
- Discuss the social, ethical, and legal issues surrounding the use of technology in learning and teaching.
- Identify emerging technologies that may affect teaching and learning.
- Considering - Where do we go from here?

Lectures & Readings – See Canvas

Teaching Standards

Teaching standards: This course is based heavily upon ISTE NETS standards located here:

<http://www.iste.org/standards>

The course addresses the following **New Jersey Professional Teaching Standards (2014)**. You can find the complete listing of NJPTS here: <http://www.state.nj.us/education/code/current/title6a/chap9.pdf>

Standard One: Learner Development. The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

i. Performances:

2) The teacher creates developmentally appropriate instruction that takes into account individual learners' strengths, interests, and needs and that enables each learner to advance and accelerate his or her learning

iii. Critical Dispositions:

2) The teacher is committed to using learners' strengths as a basis for growth, and their misconceptions as opportunities for learning

Standard Two: Learning Differences. The teacher uses an understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.

i. Performances:

3) The teacher designs instruction to build on learners' prior knowledge and experiences, allowing learners to accelerate as they demonstrate their understandings

ii. Essential Knowledge:

6) The teacher knows how to access information about the values of diverse cultures and communities and how to incorporate learners' experiences, cultures, and community resources into instruction.

iii. Critical Dispositions:

1) The teacher believes that all learners can achieve at high levels and persists in helping each learner reach his or her full potential

Standard Three: Learning Environments. The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.

i. Performances:

2) The teacher develops learning experiences that engage learners in collaborative and self-directed learning and that extend learner interaction with ideas and people locally and globally

ii. Essential Knowledge:

1) The teacher understands the relationship between motivation and engagement and knows how to design learning experiences using strategies that build learner self-direction and ownership of learning;

2) The teacher knows how to help learners work productively and cooperatively with each other to achieve learning goals

5) The teacher knows how to use technologies and how to guide learners to apply them in appropriate, safe, and effective ways.

iii. Critical Dispositions:

3) The teacher is committed to supporting learners as they participate in decision-making, engage in exploration and invention, work collaboratively and independently, and engage in purposeful learning; and

4) The teacher seeks to foster respectful communication among all members of the learning community.

Standard Four: Content Knowledge. The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches, particularly as they relate to the Common Core Standards and the New Jersey Student Learning Standards, and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.

i. Performances:

- 1) The teacher effectively uses multiple representations and explanations that capture key ideas in the discipline, guide learners through learning progressions, and promote each learner's achievement of content standards
- 7) The teacher uses supplementary resources and technologies effectively to ensure accessibility and relevance for all learners

iii. Critical Dispositions:

- 1) The teacher realizes that content knowledge is not a fixed body of facts but is complex, culturally situated, and ever-evolving. He or she keeps abreast of new ideas and understandings in the field.

Standard Five: Application of Content. The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

i. Performances:

- 1) The teacher develops and implements projects that guide learners in analyzing the complexities of an issue or question using perspectives from varied disciplines and cross-disciplinary skills

ii. Essential Knowledge:

- 4) The teacher understands how to use digital and interactive technologies for efficiently and effectively achieving specific learning goals

iii. Critical Dispositions:

- 3) The teacher values flexible learning environments that encourage learner exploration, discovery, and expression across content areas

Standard Six: Assessment. The teacher understands and uses multiple methods of assessment to engage learners in examining their own growth, to monitor learner progress, and to guide the teacher's and learner's decision-making.

i. Performances:

- 4) The teacher engages learners in understanding and identifying quality work and provides them with effective descriptive feedback to guide their progress toward that work;
- 5) The teacher engages learners in multiple ways of demonstrating knowledge and skill as part of the assessment process

Standard Eight: Instructional Strategies. The teacher understands and uses a variety of instructional strategies to encourage learners to develop a deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways

i. Performances:

- 7) The teacher engages learners in using a range of learning skills and technology tools to access, interpret, evaluate, and apply information

ii. Essential Knowledge:

- 3) The teacher knows when and how to use appropriate strategies to differentiate instruction and engage all learners in complex thinking and meaningful tasks;
- 4) The teacher understands how multiple forms of communication (oral, written, nonverbal, digital, and visual) convey ideas, foster self-expression, and build relationships;
- 5) The teacher knows how to use a wide variety of resources, including human and technological, to engage students in learning

iii. Critical Dispositions:

- 3) The teacher is committed to exploring how the use of new and emerging technologies can support and promote student learning

The course, as part of RU-GSE's Teacher Education program, addresses components of CAEP (Council for the Accreditation of Educator Preparation) Standard 1 (2013). You can find the complete listing of CAEP standards here: <http://caepnet.org/standards/>

Standard 1. Content and Pedagogical Knowledge: *"The provider ensures that candidates develop a deep understanding of the critical concepts and principles of their discipline and, by completion, are able to use discipline-specific practices flexibly to advance the learning of all students toward attainment of college- and career-readiness standards."*

Specifically, this course includes *"references to applications of new technologies to educational situations"*:

- *Standard 1.1 states that: "Candidates demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s) in the following categories: the learner and learning; content; instructional practice; and professional responsibility" (NOTE: The 10 InTASC standards are aligned to the NJPTS and include many references to applications of technology.)*
- *Standard 1.5 states that: "Providers ensure that candidates model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice."*

Additionally, CAEP's May 2018 Handbook describes educational technology infusion as a "cross-cutting theme" of which the following elements are addressed by this course:

The technology crosscutting theme addresses incorporation of technology to improve the effectiveness of school and district functions, enhance instruction, and manage student and assessment data while engaging students in the applications of technology to learning experiences. In addition to Standard 1, as noted above, the CAEP Standards make explicit reference to applications of technology in Standard 3:

- *Standard 3.4 states that: "Providers present multiple forms of evidence to indicate candidates' developing content knowledge, pedagogical content knowledge, pedagogical skills, and the integration of technology in all of these domains."*