Course description: Education & Computers establishes a foundation for using computers 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 necessary.

There are times when I am able to provide choice so that both content and topics are easily suited to professions outside of Education. However, not always. Therefore, when the topic or focus seems most applicable to “teachers or students”, please remember that we’ll have opportunities to serve as trainers, mentors, coaches, supportive colleagues, etc. in ways that ask you to know about effective teaching and learning!

Course details:

- **Mode of instruction:** Online/asynchronous. There are no in-person classes or required synchronous activities. For tech help with Canvas, please visit [https://it.rutgers.edu/help-support](https://it.rutgers.edu/help-support).
- **Course website:** [https://canvas.rutgers.edu](https://canvas.rutgers.edu)
- **Class schedule:** September 2 - December 16, 2021
- **Prerequisites:** None
- **Permission required:** No

Contact information:

- **Preferred Email Address:** carolyn.hickey@gse.rutgers.edu
- **Cell:** (908) 625-1685 (please introduce yourself via text, first) Utilize if more than 24 hours have passed and you haven’t received an email reply from me.
- **Virtual office hours (Zoom or FaceTime):** Happy to set up a mutually convenient time, by appointment!
Required text:

- The Teacher's Guide to Tech 2021
- Various linked articles and Rutgers library resources (linked in each module where assigned)

Required equipment:

- You will need access to a microphone that can hook to your computer and a digital camera to participate in some of the multimedia portions of the class.
- Arrange access to a family member’s or friend’s computer if possible. We rely on working equipment, so it is your responsibility to have a backup plan in case of equipment failure.
- For tech help with Canvas, please visit https://it.rutgers.edu/help-support.

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 website at: https://ods.rutgers.edu/students/registration-form

The Student Success Committee has created a website that provides information on resources and programs from across campus:

success.rutgers.edu

The faculty and staff at Rutgers are committed to your success. Students who are successful tend to seek out resources that enable them to excel academically, maintain their health and wellness, prepare for future careers, navigate college life and finances, and connect with the RU community. Resources that can help you succeed and connect with the Rutgers community can be found at success.rutgers.edu, and nearly all services and resources that are typically provided in-person are now available remotely.

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:

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

Organization: The course is broken up into six primary “modules” so that you can focus on identified topics as we move through the course. **You can access the modules by clicking on the “Modules” link on the left-hand side of the Canvas site.** The first three modules are designed to help you acquire knowledge of theory, background, and the various technology used. The second three modules put theory into practice and demonstrate how to apply technology classroom teaching.

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

- Provide a foundation for using computers and technology effectively.
- Improve understanding of computers and technology (both hardware and software) as necessary to support the first goal.
- Discuss the advantages and limitations of computers and computer-based technologies.
- Demonstrate an awareness of teaching standards such as the New Jersey Student Learning Standards (NJSLS) for Technology.
- Apply technology to develop 21st-century literacy skills, higher-order skills, and creativity.
- Employ the basic principles of multimedia design for a website.
- 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.
- 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 learning.
- Utilize computers and technology to support professional growth.

Ground rules for the course:

- Be sure to check in often! Each module will have several activities and I anticipate you working on something each week. Each module includes its own page that shows due dates and helps you stay organized.
- Remember, this course requires a minimum of 45 hours, over the course of the semester. Account for the "meeting" (quotes because we don't actually meet face-to-face) time along with additional reading/study time. Expect to spend as much time engaging with this course as you would if it met face to face. Most college courses are 3 hours a week in “class” and 6 hours a week reading and studying.
The great thing about the course is that it is asynchronous (you are not required to attend class at a certain time), so you can choose how and when to spend your time. This makes your learning very independent. As a result, you need to stay on top of things. I have designed the course in such a way that you'll need to stay involved.

My advice is to get things done earlier rather than later. Things happen. Your computer can crash. The power might go out. We must cover a lot of material in a short amount of time. It's best not to wait until the last minute. As Murphy's Law states: Anything that can go wrong WILL!

If something goes wrong, contact me right away.
- If you have an emergency, let me know as soon as reasonably possible.
- ALWAYS backup all data. That means having at least two copies of work on different storage media. (i.e. in the cloud and on your computer)
- It is your responsibility to make sure you have working equipment and a plan of action if you have problems.

Please read the Traits of a Successful Online Learner before you get started. This will help you to understand what is expected of a learner taking this course. Here are some additional tips from the Rutgers Learning Centers: https://rlc.rutgers.edu/succeedonline

Email policy:

Please use carolyn.hickey@gse.rutgers.edu, when possible. Email through Canvas is okay, too. I just don't check that as frequently.

You are responsible for all course-related communication. Course updates and other important communication will occasionally be sent to you using the Canvas “Inbox” and “Announcements”. These tools will send you an additional email notification. Do not rely on email alone. Check Canvas often for updates.

The course website on Canvas is populated with your email address as it stands in the University’s directory at the time when you enroll in the course. Notification emails will go to that address unless you change it.

If you wish to receive emails at a different address than the one found in the University’s directory, 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! https://community.canvaslms.com/docs/DOC-10594-4212710336

If you wish to change the way Canvas notifies you, instructions can be found here: https://community.canvaslms.com/docs/DOC-10624

The course requires effort on your part and your grade will reflect that effort. This course is primarily about learning and teaching. I want you to see and understand the technological tools available to educators. More importantly, I want you to leave the class with new instructional strategies that promote higher-order thinking skills. Most of all, I want this to be a worthwhile experience for you.
I am here to listen if you have any questions and concerns, so don’t hesitate to reach out to me at carolyn.hickey@gse.rutgers.edu, by using the Canvas “Inbox” or by setting up an appointment for a Zoom or FaceTime call through text. When it comes to email, please understand that I cannot always provide an immediate response. You should expect a response within 24 hours. **My suggestion is to aim to complete assignments with enough time to send and receive a response if questions arise.**

**Assignments, activities, and projects:** There are four primary ways in which learning is assessed in this course.

- Threaded Discussion topics will be posted in each module. These are 20% of the final grade.
- Each module includes Assignments and Activities. These are 25% of the final grade.
- There is an overarching Website Project that runs the length of the course. This project contains several components worth 35% of the final grade.
- The *Education Technology Resource Review Presentation* essay fulfills the SAS Core standard CCO. The presentation is 20% of the final grade.
- **For consistency, assignments are almost always due Thursday nights.**

<table>
<thead>
<tr>
<th>Module</th>
<th>Title</th>
<th>Dates Assigned</th>
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<tbody>
<tr>
<td>Module 1</td>
<td>Why Should We Use Technology?</td>
<td>9/2 - 9/16</td>
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<td></td>
<td>Theoretical Foundations of Learning</td>
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<tr>
<td>Module 2</td>
<td>The Tools: Computers as They Apply to Learning</td>
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<td>Module 3</td>
<td>Networking &amp; The Internet and Their Impacts on Learning</td>
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<td>Module 4</td>
<td>Technology for Communication &amp; Collaboration</td>
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<tr>
<td>Module 5</td>
<td>Multimedia for Learning</td>
<td>11/5 – 11/18</td>
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Grading: grades are based upon a 100-point scale:

A  90 - 100 points
B+ 87 - 89 points
B  80 - 86 points
C+ 77 - 79 points
C  70 - 76 points
D  60 - 69 points
F  0 - 59 points

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 grammatical errors. Please use language that is appropriate for the classroom setting and maintain a professional tone in discussion postings and assignments. Outside sources, in any assignment, must be referenced appropriately (either APA or Chicago style is acceptable).

Graded assignments: If you miss an assignment, it is at my discretion whether to allow a make-up. If there are questions or an assignment cannot be completed due to an emergency,
contact me as soon as possible. Illness will require a doctor’s note. Missing assignments will result in a grade of 0.

**Late policy:** Any assignment in this course will be accepted late with a 1 point per day late assessment.

**Extra credit:** Typically I do not offer extra credit opportunities.

**Academic integrity:** All issues of academic integrity are referred to the Rutgers University policy on academic integrity. This policy can be found in detail on the University website at: [http://academicintegrity.rutgers.edu](http://academicintegrity.rutgers.edu). 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 of violating policies of academic integrity and other elements of the student code of conduct is serious and can have a tremendous negative impact on your academic progress and future career.

Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com (via Canvas) 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. The 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.**

**Teaching standards:** This course is based heavily upon ISTE NETS standards located here: [http://www.iste.org/standards](http://www.iste.org/standards)

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

1. **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.

1. **Performances:**

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

1. **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.

1. **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

1. **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.

1. **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.

1. **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

**1. 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.
1. 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

1. Performances:

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

1. 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 “crosscutting 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.

**September 2 to September 16**

**Module 1: Why Should We Use Technology in Classrooms and Elsewhere?** The purpose of this module is to examine learning theory and apply it to support the use of technology in learning.

**Learning Objectives**

- VoiceThread Introductions
- Syllabus
- Technology standards
- Theoretical foundations
- Website project proposal
Readings - Many links may only be available when logged into the Canvas course shell.

Choose one of these:

Read: The Traits of a Successful Online Learner

Read: Rutgers University Learning Centers: How to Succeed in an Online Course

Read the syllabus. If you have any questions about the course, please send me an email.

Watch: my narrated PowerPoint: Why Teach With Technology & Theoretical Foundations

Read: Technology Can Drive Patient-Centered Care


Optional readings (often appear in the threaded discussion topics):

Read: Hung, D: Theories of Learning and Computer-Mediated Instructional Technologies. Educational Media International, v38 pp. 281-87 Dec. 2001. (Click on the link above, log in to ERIC, and click on “PDF Full Text”.)


Standard 8: Computer Science and Design Thinking & Career Readiness, Life Literacies, and Key Skills

Point Carrying Assignments:

September 9th by 11:59 P.M.

- Participate in Threaded Discussion (2 points - one per post)
- Complete: VoiceThread Introductions (3 points)
September 16th by 11:59 P.M.

- **Participate** in Threaded Discussion  (2 points - one per post)
- **Complete**: Website Project Proposal (6 points)

**September 17**

**Module 2: Overview of the tools: Hardware and Software as they Apply to the Learning**: The purpose of this module is to understand the basics of hardware and software and how their advancements can help learners

**To**

**September 30**

**Learning Objectives**

- Hardware overview
- Software overview
- Website Project rubric
Readings & Assignments

**Note**: Some links may only be available when logged in to the Canvas course shell.


**Watch**: *Exploring How Computers Work*

Choose Two (appear in the threaded discussion topics):


- **Read**: ProCon.org: *Should Tablets Replace Textbooks in K-12 Schools?* Britannica December 2018.


- **Read**: Shah, N: *Special Education Pupils Find Learning Tool in iPad Applications* Education Week, v30 n22 p1, and 16-17 Mar 2013. 3 pp. (Click on the link above, log in to ERIC, and click on “PDF Full Text”.)

**Point Carrying Assignments:**

**September 23rd by 11:59 P.M.**

- **Participate** in a Threaded Discussion (2 points: one per post)
- **Complete**: Software Evaluation Activity (4 points)

**September 30th by 11:59 P.M.**

- **Complete**: Website Project Rubric (7 points)

**October 1** - **October 14**

**Module 3: Networking and the Internet** This module will examine how networking and the Internet work.
Learning Objectives

- Introduction to networking
- Web evolution as it pertains to learning about others (blogs and writing online)
- Safety, security, and validity online

Readings and Activities

Watch: my narrated PowerPoints: Networking.

Browse: OnGuard Online! (Links to an external site.) an FTC site that breaks down security issues into explanations, games, and videos.

Choose Two: (appear in the threaded discussion topics)

- Read: Tyson, J: How Internet Infrastructure Works (Links to an external site.) How Stuff Works: A Discovery Company.
- Read: Magid, L: Connect Safely (Links to an external site.) Updated regularly.
- Read: November, A: Education Resources for Web Literacy (Links to an external site.): updated 2015

Point Carrying Assignments:

October 7th by 11:59 P.M.

- Complete the "Critical Navigation Skills" blog activity (2 points)
- Participate in a Threaed Discussion (2 points - 1 per post)

October 14th by 11:59 P.M.

- Provide a 'partner' response for blog activity above (1 point)
- Play 3 games on the “OnGuard” site. (3 points)

October 15 to November 4

Module 4: Using Technology for Communication & Collaboration: Lev Vygotsky said that learning is the result of collaboration to construct common cores of knowledge. This module discusses the ways in which technology can support Vygotsky’s social constructivist ideas.
Learning Objectives

· Appreciate the changes and challenges presented by “Participatory Culture” in today’s digital society.

· Learn about creative ways social media tools might be used.

· Discuss issues with the implementation of such tools in the workplace

· Learn about content curation online and the wisdom of the crowd.

Readings

Watch: my narrated PowerPoint: Social Networks & Curation.pptx and Blogs and Writing Online

Read: Jenkins, H. *Confronting the Challenges of Participatory Culture*. MacArthur Foundation. 2009.

Read: Ek, Jessica: *Social Media Dos and Don'ts for Nurses*

Assignments

Point Carrying Assignments:

**October 21 by 11:59 P.M.**

· **Participate** in a Threaded Discussion (2 points - 1 per post)

· **Complete** Basic Website (15 points)

**October 28 by 11:59 P.M.**

· **Complete**: Interactive components of the website project (5 points)

**November 4 by 11:59 P.M.**

· **Provide**: Feedback on a classmate’s website (1 point)

· **Select a resource for the Educational Technology Review Presentation**
November 5 to November 18

Module 5: Multimedia: The purpose of this module is to examine and discuss the role of multimedia in healthcare.

Learning Objectives
· Audio Visual Technology
· Discussion of web multimedia (Podcasting, Screencasting, streaming, and more).
· Create multimedia!

Readings & Assignments
Watch: my narrated PowerPoints: Multimedia.pptx and Audio & Visual Technology.pptx
Examine: Multimodal Literacies NCTE (National Council of Teachers of English) 2008.
Choose one:
  o Read: Shank, P: The Value of Multimedia in Learning Aug. 2008
  o Read: Walsh, K. Mayer’s 12 Principles of Multimedia Learning EmergingEdTech, June 2017

Point Carrying Assignments:

November 11 by 11:59 P.M.
  • Participate in a threaded discussion (2 points: one per post)
  • Add: Multimedia components to your website (7 points)
  • Begin working on Educational Technology Review Presentation

November 18 by 11:59 P.M.
  • Submit: First half of Healthcare Technology Review Presentation (9 points)
  • Provide: Feedback on a second classmate’s website (1 point)
November 19  Module 6: Impact of Integrating Technology: The purpose of this module is to examine the challenges that result from technology implementation. The module will also look at distance learning.

December 16

Learning Objectives

· Distance learning

· Legal, social, and ethical issues associated with implementing technology

· What it all means & where do we go from here?
Readings & Assignments

Note: Some links may only be available when logged in to the Canvas course shell.

Watch: my narrated PowerPoints: *Issues with Implementing Technology Nurses.pptx*

*Watch* *Digital Divide* and *Inequality with Technology*

Read: Morin, A: *What is Universal Design for Learning (2018)*

Choose one:

- **Read** McKee, T: *Thirty Years of Distance Education: Personal Reflections*. International Review of Research in Open and Distance Learning, v11 n2 p100-109 May 2010. 10 pp. (Click on the link above, log in to ERIC, and click on “Full Text from ERIC”.)
- **Read** Pape, L: *Blended Teaching and Learning*. Education Digest: Essential Readings Condensed for Quick Review, v76 n2 p22-Oct 2010. 6 pp. (Click on above link, log in, and click "PDF Full Text")

Point Carrying Assignments:

December 2 by 11:59 P.M.

- **Participate** in a Threaded Discussion (2 points - one per post)
- **Submit:** Second half of Educational Technology Review Presentation (9 points)

December 9 by 11:59 P.M.

- **Watch & respond to a classmate's** Educational Technology Resource Review Presentation (1 point)

December 16 by 11:59 P.M.

- **Respond to a second classmate's** Educational Technology Resource Review Presentation (1 point)
- **Submit:** Website and course reflection short essay (5 points)

December 20 by 11:59 P.M.

- **Outstanding revisions** to your Website Project are due
- **Outstanding revisions** to the Educational Technology Resource Review Presentation