

## Education and Computers

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Phone Number 732-688-4497 Office hours by appointment. I welcome your phone calls.	Email is the easiest way to reach me.
Mode of Instruction: <input type="checkbox"/> Lecture <input type="checkbox"/> Seminar <input type="checkbox"/> Hybrid <input checked="" type="checkbox"/> Online <input type="checkbox"/> Other	Permission required: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Directions about where to get permission numbers: from the instructor

Rutgers University welcomes students with disabilities into all of 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 documentations:

<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>.

### Course Objectives

1. Identify advantages and risks of Internet use in the classroom.

2. Evaluate effective computer-based learning activities
3. Demonstrate an understanding of the education technology standards: NJCCCS for Technology, NETS-T, and NETS-S.
- 4 Distinguish the use of wikis, weblogs and RSS feeds and their role in instruction
- 5 Apply technology to develop students' 21st Century literacy skills, critical thinking skills, and creativity.
6. Employ basic principles of multimedia design to create an interactive website.
- 7 Compare the roles of stakeholders (students, parents, teachers, community) in supporting the appropriate use of technology in education.
8. Discuss the social, ethical, and legal issues surrounding the use of technology in learning and teaching.

### **Council for the Accreditation of Educational Preparation (CAEP) Objectives**

#### 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.

#### Candidate Knowledge, Skills, and Professional Dispositions

1.1 Candidates demonstrate an understanding of the 10 InTASC standards at the appropriate progression level(s)<sup>2</sup> in the following categories: the learner and learning; content; instructional practice; and professional responsibility.

The specific InTASC standards the course supports are:

- Standard #1: Learner Development
- Standard #2: Learning Differences
- Standard #3: Learning Environments
- Standard #5: Application of Content
- Standard #6: Assessment.
- Standard #7: Planning for Instruction

Standard #8: Instructional Strategies

**International Society for Technology Instruction (ISTE)  
Teaching Standards**

This course is based heavily upon ISTE NETS standards located here: <http://www.iste.org/standards.aspx>

**New Jersey Professional Standards for Teachers (NJPTS 2014)**

<http://www.state.nj.us/education/profdev/profstand/standards.pdf>

**Subject Matter Knowledge**

***Teachers know and understand:***

**1.4:** Concepts inherent in numeracy to enable students to represent physical events, work with data, reason, communicate mathematically, and make connections within their respective content areas in order to solve problems.

***Teachers value and are committed to:***

**1.6:** Enthusiasm for the discipline(s) they teach and in making connections to everyday life.

***Teachers engage in activities to:***

**1.8:** Make effective use of multiple representations and explanations of disciplinary concepts that capture key ideas and link them to students' prior understanding.

**1.9:** Evaluate teaching resources and curriculum materials for their completeness, accuracy and usefulness for representing particular ideas and concepts.

**Human Growth and Development**

***Teachers know and understand:***

**2.1:** How students construct knowledge, acquire skills and develop habits of mind and how to use instructional strategies that promote student learning.

***Teachers value and are committed to:***

**2.5:** The belief that all children and adolescents bring talents and strengths to learning.

**2.6:** Appreciation for multiple ways of knowing.

***Teachers apply:***

**2.9:** Learning theory to accommodate differences in student intelligence, perception, cognitive style and achievement levels.

## **Diverse Learners**

### ***Teachers know and understand:***

**3.4:** The negative impact of bias, prejudice, and discrimination on students and society.

## **Instructional Planning and Strategies**

### ***Teachers know and understand:***

**4.1:** How to plan instruction based on students' needs, developmental progress and prior knowledge.

**4.2:** Available and appropriate resources and materials for instructional planning.

**4.3:** Techniques for modifying instructional methods, materials and the environment to help all students learn.

**4.4:** A variety of instructional approaches and the use of **various technologies**, to promote thinking and understanding.

### ***Teachers value and are committed to:***

**4.5:** The development of students' critical thinking, independent problem-solving and performance capabilities.

### ***Teachers engage in activities to:***

**4.6:** Identify and design instruction appropriate to students' stage of development, learning styles, strengths and needs.

**4.10:** Plan and develop effective lessons by organizing instructional activities and materials, incorporating a wide range of community and **technology resources**, to promote achievement of lesson objectives.

## **Assessment**

### ***Teachers engage in activities to:***

**5.7:** Enhance their knowledge of learners and evaluate students' progress and performance using a variety of formal and informal assessment techniques to modify teaching and learning strategies.

## **Learning Environment**

### ***Teachers know and understand:***

**6.2:** How the classroom environment influences learning and promotes positive behavior for all students.

### ***Teachers value and are committed to:***

**6.4:** The role of students in promoting each other's learning and recognize the importance of peer relationships in creating a climate of learning.

**6.6:** The expression and use of democratic values in the classroom.

***Teachers engage in activities to:***

**6.7:** Maintain a learning community in which students assume responsibility for themselves and one another, participate in decision-making and work collaboratively and independently.

**6.12:** Prepare students for and monitor independent and group work that allows for full and varied participation of all individuals.

### **Special Needs**

***Teachers engage in activities to:***

**7.7:** Meet the needs of all learners by using a wide range of teaching techniques to accommodate and modify strategies, services and resources, **including technology**.

### **Communication**

***Teachers know and understand:***

**8.1:** The power of communication in the teaching and learning process.

***Teachers engage in activities to:***

**8.7:** Model effective communication strategies and questioning techniques in conveying ideas and stimulating critical thinking.

### **Collaboration and Partnerships**

***Teachers know and understand:***

**9.9:** Institute parent/family involvement practices that support meaningful communication, parenting skills, enriched student learning, volunteer and decision-making opportunities at school and collaboration to strengthen the teaching and learning environment of the school.

### **Professional Development**

***Teachers know and understand:***

**10.1:** How education research and **other methods of inquiry** can be used as a means for continuous learning, self-assessment and development.

***Teachers value and are committed to:***

**10.3:** Professional reflection, assessment and learning as an ongoing process.

**10.4:** Collaboration with colleagues to give and receive help.



**SAS Core Curriculum**  
 For list of Core Curriculum  
 see: <http://sas.rutgers.edu/c/learning-goals>  
 For a list of Core Certified  
 see <http://sasundergrad.r/core?layout=blog>

## **Course catalogue 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 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.

## **Course Text**

Richardson, Will. *Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms. Third Edition. Thousand Oaks, California. 2010. ISBN # 978-1-4129-7747-0*

## **Reading List**

American Association of Colleges of Teacher Education & Partnership for 21st Century Skills (P21). (Sept. 2010). 21<sup>st</sup> Century Knowledge and Skills in Educator Preparation. Retrieved from [http://www.p21.org/storage/documents/aacte\\_p21\\_whitepaper2010.pdf](http://www.p21.org/storage/documents/aacte_p21_whitepaper2010.pdf)

Ayas, C. An examination of the relationship between the integration of technology into social studies and constructivist pedagogies. The Turkish Online Journal of Educational Technology – TOJET. January 2006 ISSN: 1303-6521 volume 5 Issue 1 Article 2. Retrieved from <http://vizedhtmlcontent.next.college.com/CurrentCourse/Module%201/Ayas-Article.pdf>.

DeKanter, N: [Gaming Redefines Interactivity for Learning](#) TechTrends:

Linking Research & Practice to Improve Learning, p26-32  
May-Jun 2005. (Click on link above, login to ERIC, and click  
on “PDF Full Text”.)

Federal Trade Commission. (2013) [OnGuard Online!](http://www.onguardonline.gov/) Retrieved from  
<http://www.onguardonline.gov/>

Hung, D: [//Theories of Learning and Computer-Mediated Instructional Technologies.//](#) Educational Media International, v38 p281-87  
Dec 2001. (Click on link above, login to ERIC, and click on  
“PDF Full Text”.)

How Stuff Works: A Discovery Company. (2013). [How Internet Infrastructure Works](#). Retrieved from  
<http://computer.howstuffworks.com/internet/basics/internet-infrastructure.htm>.

International Society for Technology in Education. (2012) [ISTE NETS Standards](#). Retrieved from <http://www.iste.org/standards>.

Internet Education Foundation. (2013). [GetNetWise](#). Retrieved from  
<http://getnetwise.org/>.

Jenkins, H. (2009). [Confronting the Challenges of Participatory Culture](#). MacArthur Foundation. Retrieved from  
[http://digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS\\_WHITE\\_PAPER.PDF](http://digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF).

Lankes, R. D. “ [Trusting the Internet: New Approaches to Credibility Tools](#).” *DigitalMedia, Youth, and Credibility*. Edited by Miriam J. Metzger and Andrew J. Flanagin. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press, 2008. 101–122. doi:  
10.1162/dmal.9780262562324.101

- Lawrence, S. *Teachers Should Know Copyright from Wrong* 2008. Retrieved from <http://www.edutopia.org/copyright-rules-teachers>.
- 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 link above, login to ERIC, and click on “Full Text from ERIC”.)
- National Council of Teachers of English. (2008). *Multimodal Literacies*. Retrieved from <http://www.ncte.org/governance/MultimodalLiteracies>.
- November, A. (2013). "*Information Literacy Resources*". November Learning. Retrieved from <http://novemberlearning.com/educational-resources-for-educators/information-literacy-resources/3-web-sites-to-validate/>.
- Pape, L. (2010). *Blended Teaching and Learning*. Education Digest: Essential Readings Condensed for Quick Review, v76 n2 p22-Oct 2010. 6 pp. (Click on link above, login to ERIC, and click on “PDF Full Text”.)
- Peters, D. (Sept. 2005). *Mayer's Principles for the design of Multimedia Learning*. Retrieved from <http://designerlearning.blogspot.com/2005/09/mayers-principles-for-design-of.html>.
- State of New Jersey Department of Education. (2010). Core Curriculum Content Standards: Technology. Retrieved from <http://www.state.nj.us/education/cccs/standards/8/index.html> .
- Strickland, J: *What's inside my computer?* How Stuff Works: A Discovery Company. Retrieved from <http://computer.howstuffworks.com/inside-computer.htm>.
- TechTrends: Linking Research & Practice to Improve Learning, p26-32 May-Jun 2005. (Click on link above, login to ERIC, and click on “PDF Full Text”.)
- Wikipedia. (2013). Child Internet Protection Act. [CIPA act](#) of 2000. Retrieved from [http://en.wikipedia.org/wiki/Children's\\_Internet\\_Protection\\_Act](http://en.wikipedia.org/wiki/Children's_Internet_Protection_Act)

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Wetschler, E. (Feb. 2011). *Going Out of Print* . District Administration: Solutions for School District Management. Retrieved from <http://www.districtadministration.com/article/going-out-print>.

### Unit Objectives

Title	Objectives
Unit 1 What is a 21st Century School?	<ol style="list-style-type: none"><li data-bbox="651 667 1583 758">1. Discriminate didactic, tutorial instructional methods from centered, interactive, exploratory instructional methods.</li><li data-bbox="651 768 1583 858">2. Explain differing views of educational technology and world, educational environments, and beyond.</li><li data-bbox="651 869 1583 959">3. Compare key learning theories such as behaviorist, constructivist and relate them to technology, teaching and learning.</li><li data-bbox="651 970 1583 1115">4. Describe various teaching styles through the lens of learning theories and describe their impact on technology, teaching and learning through these theoretical lenses.</li><li data-bbox="651 1125 1583 1270">5. Articulate a personal view of the relationship among technology and learning and describe the implicit theories and beliefs that inform these personal assumptions and beliefs.</li><li data-bbox="651 1281 1583 1371">6. Appreciate and understand ISTE and NJ state standards for technology usage.</li></ol>
Unit 2 Hardware and Software	<ol style="list-style-type: none"><li data-bbox="651 1430 1583 1520">1. Relate the components and functions of a computer system to learning tasks.</li><li data-bbox="651 1530 1583 1621">2. Identify input and output devices and their applications in the classroom. (i.e., Tablet PC, SMARTboard, Touchscreen)</li><li data-bbox="651 1631 1583 1682">3. Describe administrative and academic software.</li><li data-bbox="651 1692 1583 1782">4. Identify advantages and risks of educational software and gaming as they apply to the classroom.</li><li data-bbox="651 1793 1583 1843">5. Identify advantages and risks of associated with hypermedia.</li></ol>

	<ol style="list-style-type: none"> <li>Describe changes to classrooms that may result as both hardware and software advance.</li> </ol>
Unit 3 Networking	<ol style="list-style-type: none"> <li>Discuss the basic concepts of how networking and the Internet are used in teaching and instruction.</li> <li>Identify the benefits and risks to students related to the use of the Internet and instruction.</li> <li>Review methods of insuring student safety on the Internet.</li> <li>Critique validity and quality of websites and software products used for purposes of teaching and/or learning.</li> <li>Appraise the changes brought about by the "Read/Write Now" approach to teaching of literacy.</li> <li>Locate and evaluate instructional support websites, class management tools, and academic tools, and teaching resources that are available on the Internet.</li> </ol>
Unit 4 Collaboration	<ol style="list-style-type: none"> <li>Identify, critique, and use various social and collaborative tools and explain their role in teaching and learning.</li> <li>Discuss participatory culture and its role in classrooms.</li> <li>Create a collaborative website.</li> <li>Defend the use of social and collaborative tools.</li> <li>Identify the roles of various stakeholders (students, parents, teachers, and community) in ensuring the appropriate use of technology in the classroom.</li> <li>Write a letter to parents asking permission for students to participate in social activities.</li> <li>Use social bookmarking as a classroom resource.</li> </ol>
Unit 5 Multimedia	<ol style="list-style-type: none"> <li>Discuss the uses of audio and video media in support of learning.</li> <li>Identify types and applications of projected and non-projected media in the learning environment.</li> <li>Describe how the Internet can provide audio and visual support for teaching and learning.</li> <li>Create multimedia that incorporates digital images, audio, and video.</li> <li>Describe multimodal literacies.</li> <li>Understand when materials are used under a "fair use" copyright.</li> </ol>
Unit 6 Technology	<ol style="list-style-type: none"> <li>Identify pros and cons of distance learning.</li> </ol>

Integration	<p>2 Identify the pros and cons of the “blended” model of learning.</p> <p>3 Recognize how to use RSS to save time and share so</p> <p>4 Describe 21st century issues and challenges facing n they enter the workforce.</p> <p>5 Discuss social, ethical, and legal issues associated w technology into the curriculum.</p> <p>6 Identify emerging technologies that may affect teach</p>
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### Course Schedule and Assignment Due Dates

		<b>Begin</b>	<b>Assignments</b>	<b>Due Date</b>
<b>Unit 1</b>				
	Week 1	Sept 1	Introduce Yourself	Sept 8
	Week 2	Sept 8	Readings and Discussion	Sept 15
	Week 3	Sept 15	Project Proposal	Sept 22
<b>Unit 2</b>				
	Week 4	Sept 22	Readings and Discussion	Sept 29
			Software Evaluation	Sept 27-29
	Week 5	Sept 29	Project Rubric	Oct 6
<b>Unit 3</b>				
	Week 6	Oct 6	Readings and Discussion	Oct 13
			Your First Draft	Oct 12-13
	Week 7	Oct 13	Comment on Another First Draft	Oct 20
			Internet Safety	Oct 20
			Your Course Project Revisions	Oct 20

<b>Unit 4</b>				
	Week 8	Oct 20	Readings and Discussion	Oct 27
			Post in the Google Plus Community	Oct 27- 29
	Week 9	Oct 27	Project Interactive Component	Nov 3
<b>Unit 5</b>			Use the time in between to catch up	
	Week 10	Nov 3	Readings and Discussion	Nov 10
			Project Multimedia Component	Nov 10
	Week 11	Nov 10	Current Event Presentation	Nov 17
<b>Unit 6</b>				
	Week 12	Nov 17	Readings and Discussion	Nov 24
			OPTIONAL: SUBMIT DRAFT Course Paper to Unit 6 Dropbox for feedback	ASAP Nov 17-24
	Week 13		Project Reflection	Dec 1
	Week 14		Course Paper	Dec 10-Last day of class
			Course Evaluation	Dec 10, last day of class

**Grading:** Grading will be on 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

Grades for each assignment will be posted in the Gradebook tool on the

eCollege web site. I score all work by one week after the due date, usually much sooner.

**Academic Integrity Policy:** Any violation of academic honesty is a serious offense and is therefore subject to an appropriate penalty. Refer to <http://academicintegrity.rutgers.edu/integrity.shtml> for a full explanation of policies.

**Care, respect, and integrity are expected in written and classroom exchanges:** All written work, including postings on E-companion, 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 both your E-college postings and classroom discussions. Outside sources, in any assignment, must be referenced appropriately (either APA or Chicago style is acceptable)

**Late Policy:** Assignments are due by midnight on the specified Due Date.