

Education and Computers

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Spring 2015

Online January 20 to May 4, 2015

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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)² 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 Learning Goals Met by this Course: **ITR y**

For list of Core Curriculum learning goals, see: http://sas.rutgers.edu/component/docman/doc_download/413-summary-of-new-core-curriculum-learning-goals

For a list of Core Certified courses by learning goal, see <http://sasundergrad.rutgers.edu/core> :<http://sasundergrad.rutgers.edu/academics/requirements/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). 21st Century Knowledge and Skills in Educator Preparation. Retrieved from 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.ecollege.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!](#) 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>.

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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-websites-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.

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 School?	<ol style="list-style-type: none"> 1. Discriminate didactic, tutorial instructional methods from student-centered, interactive, exploratory instructional methods. 2. Explain differing views of educational technology and its role in today's world, educational environments, and beyond.

	<ol style="list-style-type: none"> 3. Compare key learning theories such as behaviorist, cognitive, and constructivist and relate them to technology, teaching, and learning. 4. Describe various teaching styles through the lens of learning theories and describe their impact on technology, teaching, and learning through these theoretical lenses. 5. Articulate a personal view of the relationship among teaching, learning, and technology and describe the implicit theories that are behind these personal assumptions and beliefs. 6. Appreciate and understand ISTE and NJ state standards for educational technology usage.
<p>Unit 2 Hardware and Software</p>	<ol style="list-style-type: none"> 1. Relate the components and functions of a computer system to teaching and learning tasks. 2. Identify input and output devices and their applicability in the classroom. (i.e., Tablet PC, SMARTboard, Touch Screens). 3. Describe administrative and academic software. 4. Identify advantages and risks of educational software packages and gaming as they apply to the classroom. 5. Identify advantages and risks of associated with hypermedia. 6. Describe changes to classrooms that may result as both hardware and software advance.
<p>Unit 3 Networking</p>	<ol style="list-style-type: none"> 1. Discuss the basic concepts of how networking and the Internet work. 2. Identify the benefits and risks to students related to the use of the Internet and instruction. 3. Review methods of insuring student safety on the Internet. 4. Critique validity and quality of websites and software programs for the purposes of teaching and/or learning. 5. Appraise the changes brought about by the "Read/Write" web to the teaching of literacy. 6. Locate and evaluate instructional support websites, classroom management and academic tools, and teaching resources that are available on the Internet.
<p>Unit 4 Collaboration</p>	<ol style="list-style-type: none"> 1. Identify, critique, and use various social and collaborative tools and explain their role in teaching and learning. 2. Discuss participatory culture and its role in classrooms. 3. Create a collaborative website. 4. Defend the use of social and collaborative tools. 5. Identify the roles of various stakeholders (students, parents, teachers, community) in ensuring the appropriate use of technology.

	<ol style="list-style-type: none"> 6. Write a letter to parents asking permission for students to engage in online social activities. 7. Use social bookmarking as a classroom resource.
<p>Unit 5 Multimedia</p>	<ol style="list-style-type: none"> 1. Discuss the uses of audio and video media in support of teaching and learning. 2. Identify types and applications of projected and non-projected visual media in the learning environment. 3. Describe how the Internet can provide audio and visual support to teaching and learning. 4. Create multimedia that incorporates digital images, audio, and video. 5. Describe multimodal literacies. 6. Understand when materials are used under a "fair use" clause.
<p>Unit 6 Technology Integration</p>	<ol style="list-style-type: none"> 1. Identify pros and cons of distance learning. 2. Identify the pros and cons of the "blended" model of distance learning. 3. Recognize how to use RSS to save time and share sources. 4. Describe 21st century issues and challenges facing new teachers as they enter the workforce. 5. Discuss social, ethical, and legal issues associated with integrating technology into the curriculum. 6. Identify emerging technologies that may affect teaching and learning.

Course Schedule and Assignment Due Dates

		Begin	Assignments	Due Date	Points
Unit 1					
	Week 1	Jan 20	Introduce Yourself	Jan 26	3
	Week 2	Jan 27	Readings and Discussion	Feb 2	4
	Week 3	Feb 3	Project Proposal	Feb 9	4
Unit 2					
	Week 4	Feb 10	Readings and Discussion	Feb 16	4
			Software Evaluation	Feb 16	4
	Week 5	Feb 17	Project Rubric	Feb 23	5
Unit 3					
	Week 6	Feb 24	Readings and Discussion	Mar 2	4
			Your First Draft	Mar 2	5
	Week 7	Mar 3	Comment on Another First Draft	Mar 9	3
			Internet Safety	Mar 9	3
			Your Course Project Revisions	Mar 9	0
Unit 4					
	Week 8	Mar 10	Readings and Discussion	Mar 23	4
			Wiki Letter to Parents	Mar 23	7
		Mar 14-22	SPRING BREAK		
	Week 9	Mar 24	Project Interactive Component	Mar 30	6
Unit 5					
	Week 10	Mar 31	Readings and Discussion	Apr 6	4
			Project Multimedia Component	Apr 6	5
	Week 11	April 7	Current Event Presentation	Apr 13	7
Unit 6					
	Week 12	Apr 14	Readings and Discussion	Apr 20	4
			OPTIONAL: SUBMIT DRAFT Course Paper to Unit 6 Dropbox for Dr. Pancer's feedback	Apr 22	0
	Week 13	Apr 21	Project Reflection	Apr 27	4
	Week 14	Apr 28	Course Paper	May 4 Last day of class	20
			Course Evaluation	May 4 Last day of class	**3 extra credit

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.