

Education and Computers/05:300:350/Section 3
Index: 52320
Rutgers, The State University of New Jersey
Graduate School of Education

Class Meets: Tuesday/7:40-10:20 PM/ED-208
Course Instructor: Dr. James O'Kelly
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Course Description (as noted in the GSE catalogue)

Education and Computers establishes a foundation for using the computer in a variety of educational settings across all subject areas through programming, application programs, computer-based instruction, and social/philosophical issues of computers in education.

Overview

This course has been designed to address the New Jersey Core Content Curriculum Standards ([NJCCCS](#)) for Technology, the ISTE National Educational Standards and Performance Indicators for Teachers ([NETS-T](#)), and the ISTE National Educational Standards and Performance Indicators for Students ([NETS-S](#)).

Over the course of the semester students will address through Internet activities, readings, lectures, and discussions a set of topics pertinent to the use of computer technology in the classroom. Students will also learn to use a variety of computer applications that will enhance their technology skills. Students should consider including these projects in their GSE portfolios as evidence of their technology skills.

Course Goals:

1. Provide a foundation for using computers and technology in the classroom.
2. Think critically about the advantages and limitations of computers and computer-based technologies in the classroom.
3. Understand how digital technology and project-based learning can enhance the use of higher-order thinking skills.
4. Use computers and computer-enhanced technologies to support professional growth.
5. Develop an understanding of the roles of the NJCCCS for Technology, NETS-T, and NETS-S in teaching and learning.
6. Develop students' 21st Century Learning Skills using computer-enhanced technology.
7. Develop skills in the use of several computer-based tools.

Class Format

Students will note that this class meets as a double period. The first part of a typical class meeting *generally* will be devoted to an exploration of the topic assigned for readings. Such explorations may be discussions, Internet activities, small group activities, PowerPoint presentations, or lectures. The information discussed during the first part of a class meeting will be the basis for the two exams. Students need to be up-to-date with all readings.

The second part of a typical class meeting *generally* will be devoted to lab activities in which students will become familiar with several useful computer-based tools that are used in many classrooms. Class projects will be coordinated with these lab activities.

Experiences with this course suggest that a few students will be familiar with one or two of the computer tools; some students may be unfamiliar with each one. Rarely is any student familiar with all of them. When students first begin to learn how to use the tools, they often experience frustration. However, with perseverance the frustration dissipates and a sense of accomplishment emerges. No one is expected to be an expert with any tool. However, there is NO reason why a college-level student cannot produce a decent project with any of these tools.

Readings

This course will use a variety of articles that are available at our ecollege website. Students should have readings completed prior to each class meeting.

As an introductory course in education and computers, the topics for the readings have been selected to familiarize students with many of the major themes, practices, challenges, and trends related to this domain. No introductory course in any domain can acquaint students with all such areas. Students who are interested in additional in-depth course work with educational technology, should contact Dr. Erica Boling (erica.boling@gse.rutgers.edu) about the Rutgers Certificate in Educational Technology (<http://www.rutgersedtech.com>).

I will demonstrate how to use Doc Sharing during our first class meeting.

Communications

If you need to speak with me privately, you may meet with me prior to our class meeting. I can usually be found at one of the desks just outside the computer lab. My main tools for communicating with you will be through ecollege and email. Ecollege employs my old rcj account when transmitting email. However, PLEASE use my gse account (james.o'kelly@gse.rutgers.edu) when you need to contact me. The use of the gse account will allow me to keep better track of our exchanges.

How A Student Can Perform Well in this Course

Grades will be based on a set of projects, exams, Small Group Tasks, and a group presentation. The course employs a point system to determine final grades. In essence, that means that there is no set number of As, Bs, Cs, and so on issued at the end of the

semester. There are several steps that a student can take to earn a strong grade for the course. These include:

Attendance: Although no points are earned specifically for attendance, attendance is taken for each class meeting. Keep in mind that this course meets as a double period. If a student misses a class, he or she essentially has missed a high percentage of class time. Students with poor attendance will miss a great deal of content that will appear on the two exams. Those students will also have difficulty with projects because they will have a difficult time using the applications on which the projects are based. Additionally, there is usually some time allotted near the end of a class meeting for students to get extra help with lab projects. Students who use that time usually do well.

Readings: Keep up with the readings. In-Class Tasks will usually be based on them. Exams will be based on them.

Projects: Students who begin to work on projects soon after they are assigned usually do well with them. Students who wait to work on a project until a day or two prior to the due date usually do poorly with them. Students who comply with the specific requirements for a project usually do well with the projects. There is some similarity among the requirements for the projects, but they are never exactly the same. Sometimes students who are under time pressure confuse the requirements for one project with the requirements for another project. Always make sure that you are complying with the requirements of a project. (Failure to do so will result in the loss of points.) If you have a question about a project, please speak with me.

The directions for each project will be available in Doc Sharing on ecollege. The directions will include a grading scheme/rubric that identifies what I will be looking for when I assess a project.

Although time will be provided in class to work on projects, it will be impossible to complete all projects in class. Therefore, it will be necessary for students to have access to computers outside of class. Students should note the GSE computer lab hours as well as the hours of other labs around campus.

Group Presentations: Students will have time during class meetings later in the semester to confer, plan, and work on their group presentations. Please make good use of that time. (Last semester, the night before the due date for the presentations I received an email from a member of one group, asking me what their topic was for the presentation. Needless to say, this group did not produce a strong presentation.)

Exams: The purpose of each exam is to determine whether a student has a basic understanding of the readings, lectures, and/or the Small Group Tasks. A student who can answer the study questions posted for each set of readings will perform

well on these exams. For those of you who are familiar with Bloom's Taxonomy, these exams are designed for the Remembering and Understanding levels of cognitive complexity.

Small Group Tasks (SGT): During ten of our class meetings, there will be a Small Group Task. Each task will be worth a maximum of 2 points. You may accumulate up to 20 points for these tasks. Each student starts off with four points. If you miss an SGT, you may not make it up. (Each student in the class starts off the semester with 4 points for this set of activity. Basically this means that a student can miss two of them without being penalized.)

Grade	Points
A	90 - 100
B+	85 - 89
B	80 - 84
C+	75 - 79
C	70 - 74
D	60 - 69
F	> 60

Additional Course Information

Focus Questions

A set of focus questions will be uploaded to ecollege several days prior to a class meeting. These questions highlight what you are expected to understand for a specific class. The mid-term and final exams will be based on these focus questions.

Supplies

You will need two USB flash drives. *Please be sure that each one is labeled clearly with your name.* You will need these two drives to backup your work. (Any work that you save on a computer in the lab is subject to deletion.) Keep in mind that there is a policy for late work. If you lose work because it was not backed up, the late policy will NOT be waived.

REMEMBER: YOU NEED TWO FLASH DRIVES! (A semester or so ago a student did not heed this advice. The student misplaced his/her flash drive and lost many points for submitting the assignment late.)

Assignments		
<i>Task/Exam</i>	<i>Due</i>	<i>Points</i>
Project 1: WebQuest	3/4	15
Exam 1	3/11	12.5
Project 2: Digital Storytelling	4/8	15
Project 3: Interactive White Board	5/6	15
Exam 2	5/6	12.5
Final Exam: Group Presentations	5/13	10
In-Class Tasks	ongoing	20

Policies

Class Attendance: Attendance at all regularly scheduled classes is required, and attendance will be recorded at the **end** of each class meeting. This requirement is in keeping with University policy on attendance.

If you expect to miss a class, 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. Be aware, however, that reporting an absence does not in any way obviate a student's course obligations.

Also, there have been instances, following an absence, in which a student requests a special meeting to learn the material or be trained in the skills that were addressed at the missed class meeting. *Such requests can be honored only if the absence is one excused by University policy and is suitably documented (e.g., physician's note).*

A student who misses a class meeting should contact another student for notes or other information that was pertinent to a class meeting.

Ecompanion: I have established an ecompanion site (<https://ecollege.rutgers.edu/index2.jsp>) for this course. This site will contain a variety of resources for you. These resources include the syllabus, assignments, readings, and educational standards. These resources will be found by clicking on the Doc Sharing tabs within ecompanion.

Make-Ups: A make-up exam will be allowed ONLY if you miss one because of religious observance, a properly documented illness, family emergency, or other situation covered by the University attendance policy. If your religious obligations result in absence for an exam or other evaluative activity, *you must inform me prior to the examination.*

Assignments: Assignments must be submitted on time. No excuse will be accepted for work that is submitted late. An automatic 5-point deduction will be assessed for late work.

Email: From time-to-time class members will receive notices through ecompanion. Such emails will be sent to the email accounts that ecompanion lists for students. (I will NOT attempt to send emails to other email addresses.) Although I do not intend to send many emails, I suggest that you check that account periodically to look for anything from me.

It would be wise on your part to check your email a couple of hours before each class meeting. Although I have missed class meeting only rarely for emergencies, the possibility always exists. If such an emergency arises, I will do my best to notify you by email of my absences so that you do not make a trip to the GSE for naught.

Also, students occasionally contact me for various reasons via email on the day of a class meeting. Please keep in mind that I do not always have the opportunity to check my email during the daytime hours, and it is very possible that I will not see such emails.

Classroom Culture and Participation: This instructor expects students to be prepared for class meetings. Preparation includes familiarity with readings, a completed reading reaction sheet, and any work necessary to engage in lab work. Participation also includes support for a classroom environment that is conducive to and respectful of teaching and learning.

Here are a couple of tips to promote a positive classroom culture and participation. First, please turn off all cell phones during class. If there is a reason why your cell phone must be active (e.g., parental responsibilities), please notify me. Second, the fact that students are sitting in front of computers tempts some of them to check email, read blogs, or visit sites of personal interests. Avoid that temptation. It is discourteous to the instructor and the other students.

Course Projects

Overview

The domain of education and computers is so vast that there is no way that students in a course could actually engage in or encounter more than a fraction of the various programs, instructional strategies, and computer-based tools that they encounter in their readings and class discussions. It is important, however, that pre-service teachers do develop skills, concepts, strategies, and approaches to computer-based technologies through direct interaction that can be fruitfully applied in educational settings. The projects and assignments are designed to provide students with experiences that will comply with the NJCCCS and/or NETS-T and NETS-S. In addition to the project, students will be required to write a paper in which he or she denotes which areas of NJCCCS the project addressed.

Nutshell Descriptions of Projects and Assignments

A full, specific description for each project or assignment listed below will be found on the course ecompanion site. A grading grid/rubric will also be provided for each project or assignment so that students can plan, evaluate, and monitor their efforts with each project or assignment.

Group Project (What Teachers Should Know About...): Students will form their own groups of four for this assignment. Each group will explore an issue in the domain of educational technology, and create and deliver a presentation about the topic.

Lab Projects

There will be three lab projects for this course. During the period of time devoted to instruction for each project, students will have time to learn the basics of each program, propose and design a project using each program, and to consult with the instructor and other students.

1. **WebQuest Project:** The WebQuest is the most popular web-based, open-ended learning/instructional at present. Each student will learn how to make a WebQuest using Google Sites.
2. **Digital Storytelling Project:** Each student in the class will produce a digital story using Prezi, an online storytelling tool.
3. **Interactive White Board (IWB) Project:** Each student will design a classroom activity in which an IWB plays a central role to enhance or support student learning.

Small Group Tasks (SGTs)

As previously noted, there will be ten SGTs over the course of the semester. Each SGT will familiarize students with a topic, theme, or tool related to the course. Most of the time the SGT will be drawn from a topic encountered in the readings. Students usually will be assigned randomly to a small group (three or four members).

New Jersey Professional Teaching Standards

This course addresses these areas of the standards:

Knowledge

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;
- 2.2 How student learning is influenced by individual experiences, talents and prior learning, as well as language, culture, family, and community values; and
- 2.3 How to identify and teach to the developmental abilities of students, which may include learning differences, visual and perceptual differences, cultural and socio-emotional differences, special physical or emotional challenges and gifted and talented exceptionalities.
- 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; and
- 4.4 A variety of instructional approaches and the use of various technologies, to promote thinking and understanding.
- 8.1 The power of communication in the teaching and learning process.

Dispositions

Teachers value and are committed to:

- 2.4 The educability of all children and adolescents;
- 2.5 The belief that all children and adolescents bring talents and strengths to learning;
- 2.6 Appreciation for multiple ways of knowing;
- 2.7 The diverse talents of all students and to helping them develop self-confidence and subject matter competence; and
- 2.8 The belief that all children and adolescents can learn at high levels and achieve success.
- 3.5 Respect for individual and cultural differences, and appreciation of the basic worth of each individual and cultural group; and
- 3.6 The diversity of learning that takes place in the classroom, respect for the talents and perspectives of each student and sensitivity to community and cultural norms.
- 4.5 The development of students' critical thinking, independent problem-solving and performance capabilities.
- 5.3 The belief that students' strengths are the basis for growth and their errors are opportunities for learning.
- 7.3 The belief that children and adolescents with special needs can learn at high levels and achieve success.

Performances

Teachers apply:

- 2.9 Learning theory to accommodate differences in student intelligence, perception, cognitive style and achievement levels.
- 3.7 Create a learning community in which individual differences are respected;
- 3.8 Learn about the diverse students they teach, and the students' families and communities;
- 3.9 Use strategies to support the learning of students whose first language is not English; and
- 3.10 Use knowledge of students and their lives to design and carry out instruction that builds on students' strengths while meeting their needs and taking into account issues of social class, gender, race, ethnicity, language, sexual orientation, age and special needs.
- 4.6 Identify and design instruction appropriate to students' stage of development, learning styles, strengths and needs;
- 4.7 Plan instruction based on knowledge of classroom, school and community culture;
- 4.8 Evaluate teaching resources and curriculum materials for their comprehensiveness, accuracy and usefulness for representing particular ideas and concepts;
- 4.9 Identify strategies to create learning experiences that make subject matter meaningful for students, address a variety of learning styles, encourage students to pursue their own interests and inquiries and help students connect their learning to personal goals;
- 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

Course Schedule/Section 3				
Explorations/Readings				Course Projects
Mtg.	Date	Topic	Source	
<i>Foundations and Theory: Educational Technology</i>				
1	1/28	21 st Century Learning and Teaching	ecollege	Overview
2	2/4	Models of Teaching	ecollege	WebQuests
3	2/11*	Educational Technology and Assessment	ecollege	WebQuests
4	2/18*	“The Standards”	ecollege	WebQuests
5	2/25	The Computer as a Mindtool/HOTS	ecollege	WebQuests
<i>Educational Technology in Practice</i>				
6	3/4*	Digital Storytelling	ecollege	Digital Storytelling
7	3/11*	Exam 1/ Using Visuals to Support Learning	ecollege	Digital Storytelling
<i>Spring Break (3/18)</i>				
8	3/25*	Using Social Media to Support Learning	ecollege	Digital Storytelling
9	4/1*	Promoting Professional Development with Internet Resources	ecollege	Digital Storytelling/Group Presentations (GP)
10	4/8*	Designing Effective Presentations	ecollege	Interactive White Boards/GP
11	4/15*	Using Web-based Resources to Support Learning	ecollege	Interactive White Boards/GP
12	4/22*	Assistive Technology	ecollege	Interactive White Boards/GP
13	4/29*	Problem-based Learning: Scratch	ecollege	Interactive White Boards/GP
14	5/6	Exam 2/Wrap-up	ecollege	GP
15	5/13	Final Exam – 8:00 PM (Presentations: What Teachers Should Know About...)	NA	NA
*On each of these dates there will be a Small Group Task. Each one is worth 2 points.				