

# Simulations and Gaming Technologies for the Classroom™ Online

**S**imulations and Gaming Technologies for the Classroom Online offers strategies to engage students in complex problem solving, sophisticated collaboration, and creative expression through the medium of video games. During this course, participants will evaluate learning games to determine their effectiveness and suitability for the classroom. Participants will also become familiar with contemporary gaming technologies, enabling them to understand the pedagogical models behind games and how gaming models may be used for learning.

To the right are the key areas of focus for the eight-week online asynchronous course. For more information, refer to the syllabus, which provides a detailed outline of the course material as well as a bibliography of research on which the course is based.

## In this course, participants will

- ▶ Explain the learning principles embodied in contemporary video games.
- ▶ Evaluate learning games to determine their effectiveness and suitability for the classroom.
- ▶ Recognize trends in the computer and video game field.
- ▶ Construct a new framework of learning from experiences gathered by completing a contemporary video game.
- ▶ Analyze current beliefs and assumptions about using video and computer games in the classroom for learning purposes.
- ▶ Relate an area of expertise to gaming, to the inherent learning principles within games, and to societal norms.
- ▶ Analyze game play to reflect on themselves as learners.
- ▶ Identify how particular game mechanics appeal to diverse learners.

# Simulations and Gaming Technologies for the Classroom™ Online

## Course Description

This course will familiarize teachers with contemporary gaming technologies, enable them to understand the pedagogical models behind games, and show how these gaming models may be used for learning.

Video games provide today's youth with new kinds of learning experiences—like leading a virtual civilization or running a virtual guild with hundreds of other participants from around the real world. Through gaming, children engage in complex problem solving, sophisticated collaboration, and creative expression. However, there is some doubt about the effectiveness of gaming as a learning tool when restricted by old learning models. Today's youth must contend with this dichotomy: life outside school—open access to information, opportunities for deep expertise, multiple pathways for learning—and the learning inside school—traditional learning models, limited access to technology.

With growing momentum, a new generation of educators is embracing games for learning. Some are already using learning games like *Civilization*, a commercially produced game, in the classroom. Promising research shows that games can—and will—become powerful learning environments for children (Barab et al, 2007; Squire & Jenkins, 2003; Squire, 2003). Combining the interactivity inherent in video games with complex learning models, a new generation of games is becoming readily available. Will the education system be ready for this new mode of learning?

## Course Outcomes

Upon completion of this class, the learner is expected to be able to:

1. Define video games (both computer and TV) as used by today's youth.
2. Compare and contrast recreational video games, educational games, and other learning systems.
3. Explain the learning principles embodied in contemporary video games.
4. Explain basics of gaming mechanics.
5. Critically evaluate learning games to determine how they relate to academic content and standards.
6. Identify contemporary developments in video games and video-gaming culture.
7. Actively participate in games culture.
8. Recognize trends in the computer and video game field.
9. Construct a new framework of learning from experiences gathered by completing a contemporary video game.
10. Analyze current beliefs and assumptions about using video and computer games in the classroom for learning purposes.
11. Develop expertise in the subgenre of games related to his or her academic content and state standards.
12. Relate unit content to gaming, to the inherent learning principles within games, and to societal norms.
13. Analyze game play to reflect on himself or herself as a learner.
14. Identify how particular game mechanics appeal to diverse learners.

**Required Text**

Gee, J. P. (2007). *What video games have to teach us about learning and literacy*. (2nd ed.) New York: Palgrave Macmillan.

Instructors and learners will also use instructor-generated materials, learner-generated materials, and Web-based resources to facilitate learning.

**Topical Outline****List of Concepts****Understanding  
New Media**

Media in transition: from expert-driven knowledge to participatory culture; blurring the boundaries between media; games as a medium for learning

**Games as  
Semiotic Domains**

Life worlds and semiotic domains: games as spaces for designed meaning; violence in games: undesirable element or opportunity for reflection?; critical learning: games as interactive texts, and their role in developing a critical perspective on knowledge

**Game Play and  
Mechanics**

Building a learner identity through play; building blocks of game design; game design as a form of literacy

**Games as  
Learning Process**

Games as situated learning systems; engaging gamers in play; scaffolding learning in games

**Social  
Organization of  
Gaming Culture**

Cultural models; gaming culture: massively multiplayer games; literacy practices in virtual worlds

**Finding Meaning  
in Games**

The social mind; games as epistemic spaces; children's social interactions in games

**Emerging Models  
of Academic  
Gaming**

Designing games for learning; educational approaches for the use of games in the classroom; using commercial games in the classroom

**Future Games  
and the  
Classroom**

Augmented-reality games; epistemic games; alternate-reality games

## Course Assessments and Links to Course Outcomes

Throughout the course, the learner will be assessed and evaluated on the completion of the following assessments. Learning activities include large- and small-group discussions and assessments for a total of 956 points.

Modules	Topics of Modules	Points	Correlation With Course Outcomes
Module 1:	Understanding New Media	99	1, 2, 3
Module 2:	Games as Semiotic Domains	117	4, 5, 6, 10
Module 3:	Game Play and Mechanics	151	4, 7, 9, 11, 12
Module 4:	Games as Learning Process	134	9, 10, 11, 12
Module 5:	Social Organization of Gaming Culture	85	12, 13
Module 6:	Finding Meaning in Games	92	12, 14
Module 7:	Emerging Models of Academic Gaming	125	3, 5, 6, 8
Module 8:	Future Games and the Classroom	153	6, 8, 10, 13
	<b>Total</b>	<b>956</b>	

Criteria specific to each assessment will be explained in conjunction with the instructional activities.

### Instructional Methodology

The instructional methodology of this course focuses on developing, enhancing, and improving the instructional expertise and pedagogical knowledge base of practicing educators. Strategies include presentation of new content through online readings, active construction of knowledge through practice and problem solving, collaborative group work, personal reflection, structured small-group or whole-class discussion, analysis of assigned reading, and the application of course content and skills to participant's individual grade level, subject area(s), and classroom.

### Grading Scale

The course facilitator will post the grading scale.

### Performance Learning Systems' Late Policy

The grade for late work drops 10 percent each day the work is late. The following exceptions apply:

- If a participant is sick/hospitalized or has a death in the family, the timing of makeup work may be arranged with the course facilitator. No points will be deducted if the work is completed according to the agreement.
- If a participant is on vacation/traveling/etc., the participant must contact the course facilitator ahead of time to avoid a penalty. This type of absence may occur only once during a course. All posts should be submitted for the missed module before leaving; replies may be completed according to agreed-upon timing when the participant returns.
- If a participant has difficulty completing everything in a week, an extension can be granted if the participant contacts the facilitator during the week (not at the last minute).

### **Performance Learning Systems' Participant Drop Policy**

- Participants are eligible to receive a refund if they attend class for one week or less. This means participants must withdraw by the end of Module 1 to receive a refund.
- Refunds of the balance of tuition paid will be given, minus the \$50 deposit.

### **Performance Learning Systems' Academic Integrity Policy**

Performance Learning Systems expects absolute academic honesty and integrity from every course participant. The specific Academic Integrity and Honor Code policies of our partner colleges and universities are embraced and enforced by PLS instructors. The following are considered to be serious violations:

- Plagiarism: the use of another's ideas, data, or words without proper acknowledgment.
- Fabrication: the use of invented information or the falsification of research or other findings with the intent to deceive.
- Collusion: improper collaboration with another in preparing assignments or projects.
- Cheating: an act of deception by which a student misrepresents that he or she has mastered information on an academic exercise that he or she has not mastered.
- Academic Misconduct: tampering with grades, or taking part in obtaining or distributing any part of student work that is not his or her own.

Violation(s) or suspected violation(s) will be investigated and pursued according to specific college/university procedures.

### **Identity Authentication**

The college/university, Performance Learning Systems (PLS), and students share a joint responsibility to ensure that each student's contribution in an online course activity comes from that student alone. For the student, this responsibility has two parts:

1. Students are responsible for positively ensuring that every contribution to an online course created with the students' computer account is made by the student alone. Contributions covered under this policy include: written assignments; quiz and exam submissions; discussion forum postings; live participation in text-based chat sessions, phone conferences, and videoconferences. If a student allows another person to write or make any kind of submission to an online activity in the student's name, then this constitutes cheating and will be treated as a violation of academic honesty.
2. Students are responsible for ensuring the integrity of their computer account security by following the actions required of them by the PLS Acceptable Use Policy. These actions include keeping passcodes private, updating passcodes when required by Performance Learning Systems, and reporting breaches of the security policy to the IT Helpdesk.

### **Course Evaluation**

The evaluation of learner work will be based on the defined criteria for learner assessments. The criteria for learner assessments will be outlined for students prior to instructional activities and engagement with student learning targets (outcomes). Grading is based solely on the evaluation of student learning targets and defined criteria for learner assessments.

Formative assessment of learning outcomes is conducted throughout the course, using a variety of means that include the following: completion of assessments; constructive contributions to class discussions (whole-class as well as small-group); sharing of valuable, pertinent, and/or applicable ideas and experiences; and active participation in online interactions. It is expected that each participant will contribute to the academic quality of the course.

Summative assessment includes the completion of weekly learning activities and assignments for which the participant will need to synthesize class content, apply it to his or her own practice, and complete a plan for implementing the major components of content and skill acquired during the course.

## Course Outcome Correlations With INTASC Standards for Teachers

	Course Outcomes
<b>Standard 1: Subject Matter</b> The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
<b>Standard 2: Student Learning</b> The teacher understands how children and youth learn and develop, and can provide learning opportunities that support their intellectual, social and personal development.	3, 5, 8, 9, 11, 12, 14
<b>Standard 3: Diverse Learners</b> The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.	5, 6, 7, 8, 9, 10, 11, 12, 14
<b>Standard 4: Instructional Strategies</b> The teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.	3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14
<b>Standard 5: Learning Environment</b> The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.	6, 7, 8, 10, 11, 14
<b>Standard 6: Communication</b> The teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
<b>Standard 7: Planning Instruction</b> The teacher plans and manages instruction based upon knowledge of subject matter, students, the community, and curriculum goals.	11, 12, 13
<b>Standard 8: Assessment</b> The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social and physical development of the learner.	5, 10
<b>Standard 9: Reflection and Professional Development</b> The teacher is a reflective practitioner who continually evaluates the effects of her/his choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.	9, 11, 12, 13
<b>Standard 10: Collaboration, Ethics, and Relationships</b> The teacher fosters relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well-being.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

The Interstate New Teacher Assessment and the Support for Consortium (INTASC) standards were developed by the Council of the Chief State School Officers and member states. Copies may be downloaded from the Council's website at <http://www.ccsso.org>.

© Council of Chief State School Officers. (1992) Model standards for beginning teacher licensing, assessment, and development: A resource for state dialogue. Washington, DC: Author. <http://www.ccsso.org/content/pdfs/corestrd.pdf>.

## Course Outcome Correlations With National Board for Professional Teaching (NBPTS) Propositions and Standards

<b>Proposition 1: Teachers are Committed to Students and Their Learning.</b>	<b>Course Outcomes</b>
NBCTs are dedicated to making knowledge accessible to all students. They believe all students can learn.	<b>1, 2, 9, 11, 13, 14</b>
They treat students equitably. They recognize the individual differences that distinguish their students from one another and they take account for these differences in their practice.	<b>1, 2, 3, 5, 9, 12, 14</b>
NBCTs understand how students develop and learn.	<b>2, 3, 5, 11, 12, 14</b>
They respect the cultural and family differences students bring to their classroom.	<b>14</b>
They are concerned with their students' self-concept, their motivation and the effects of learning on peer relationships.	<b>3, 5, 11, 12, 14</b>
NBCTs are also concerned with the development of character and civic responsibility.	<b>3, 5, 11, 12, 14</b>
<b>Proposition 2: Teachers Know the Subjects They Teach and How to Teach Those Subjects to Students.</b>	
NBCTs have mastery over the subject(s) they teach. They have a deep understanding of the history, structure and real-world applications of the subject.	<b>3, 5, 11, 12</b>
They have skill and experience in teaching it, and they are very familiar with the skills gaps and preconceptions students may bring to the subject.	<b>3, 11, 12, 13</b>
They are able to use diverse instructional strategies to teach for understanding.	<b>3, 4, 5, 8, 9, 11, 12, 14</b>
<b>Proposition 3: Teachers are Responsible for Managing and Monitoring Student Learning.</b>	
NBCTs deliver effective instruction. They move fluently through a range of instructional techniques, keeping students motivated, engaged and focused.	<b>3, 6, 7, 9, 10, 11, 12, 13, 14</b>
They know how to engage students to ensure a disciplined learning environment, and how to organize instruction to meet instructional goals.	<b>3, 7, 9, 10, 11, 14</b>
NBCTs know how to assess the progress of individual students as well as the class as a whole.	<b>7, 8, 10, 12, 14</b>
They use multiple methods for measuring student growth and understanding, and they can clearly explain student performance to parents.	<b>7, 8, 10, 12</b>
<b>Proposition 4: Teachers Think Systematically about Their Practice and Learn from Experience.</b>	
NBCTs model what it means to be an educated person – they read, they question, they create and they are willing to try new things.	<b>5, 6, 8, 10, 11, 12, 14</b>
They are familiar with learning theories and instructional strategies and stay abreast of current issues in American education.	<b>5, 6, 8, 10, 11, 12</b>
They critically examine their practice on a regular basis to deepen knowledge, expand their repertoire of skills, and incorporate new findings into their practice.	<b>5, 10, 12, 14</b>

**Proposition 5: Teachers are Members of Learning Communities.**

NBCTs collaborate with others to improve student learning.	<b>7, 8</b>
They are leaders and actively know how to seek and build partnerships with community groups and businesses.	<b>7, 8</b>
They work with other professionals on instructional policy, curriculum development and staff development.	<b>7, 8</b>
They can evaluate school progress and the allocation of resources in order to meet state and local education objectives.	<b>6, 10, 12, 14</b>
They know how to work collaboratively with parents to engage them productively in the work of the school.	<b>1, 2, 3, 10, 11, 14</b>

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