1 PG/S

1.1 Ethics/Values

(03) Student will understand equity, ethics, and etiquette issues associated with the use of technology in education

- demonstrating familiarity with equity, ethics, and etiquette issues
- demonstrating familiarity with issues of equity regarding computer use (e.g., students with special needs, students with limited English proficiency, students with different economic and social backgrounds)
- demonstrating knowledge of equity and ethics issues related to technology purchasing and policy decisions
- analyzing the historical development and important trends affecting the evolution of technology

Student will build technology, learning, evaluation and teaching systems in a values based context that meaningfully extends into personal and professional contexts

- Student will be able to consider ethical issues when approaching problems and developing solutions in the domain of educational technology
- Student will consider the basis of values in their decisions surrounding educational technology
- Student will incorporate issues concerning multiculturalism in his/her work

1.2 Instructional Design

(10) Student will understand principles of instructional design and product development

- demonstrating knowledge of how to incorporate technology into curriculum development in alignment with state and national content standards
- demonstrating an understanding of criteria for evaluating instructional materials (e.g., alignment with content standards, student needs, ease of use, presentation features, authoring capability, ease of navigation, media integration, search strategies, instructional support)
- demonstrating knowledge of design principles for developing instructional materials (e.g., the design of screens, text, graphics, audio, and video)
- demonstrating familiarity with methods for the assessment and evaluation of instructional products
- demonstrating knowledge of how to apply instructional design principles for the development of substantive interactive multimedia computer-based instructional products

1.3 Education and Psychology

- Scholarly research for understanding and action

Student will Apply Developmental and Cognitive Psychology in Educational Technologies to Learning Communities and Systems

(09) Student will understand educational and technology-related research

- applying principles and practices of educational research in educational technology
- demonstrating familiarity with major research findings and trends related to the use of technology in education to support the integration of technology in the educational environment
- demonstrating knowledge of learning and teaching theories and instructional design, and their relationship to the use of technology in the educational environment
• demonstrating knowledge of the social and historical foundations of the use of technology in education
• identifying research related to equity issues concerning access and use of computers and related technologies in education

Students will recognize and make use of theoretical framework(s) on which, technology-enhanced teaching and learning systems are grounded

Students will read, discuss, analyze, synthesize, and critically evaluate (using Critical Thinking skills and a basic understanding of social science research methods) scholarly research which addresses the integration of educational technologies into current and future educational systems.

▼ 1.4 History of Educational Technology
• Knowledge acquisition and knowledge building
• Student will consider the use of technology in past, present and future learning communities

▼ 1.5 Change and Organizational Leadership
• Building learning communities and learning systems
• Student will understand the Role of Educational Technologies in Changing School Cultures, Organization, and Community

▼ 1.6 State and National Learning Standards
• Student will link pedagogy and content in each of th following areas of the State Learning Standards: English language arts; mathematics, science and technology, and social studies
• Student will have the knowledge, understanding and skills for using various types of technology for teaching to the State Learning Standards for Students

▼ 1.7 Practical School-Based Issues
• Student will understand legal, privacy, security, and safety issues associated with the use of technology in education
• demonstrating knowledge of legal, privacy, security, and safety issues related to technology purchasing and policy decisions
• demonstrating knowledge of acceptable use policies for school-owned technology resources (e.g., publishing the names and photographs of minors, appropriate use of chat rooms and computer-mediated conversations)
• demonstrating knowledge of methods for protecting students from inappropriate information and interactions associated with the use of technology
• demonstrating an understanding of liability issues related to piracy, plagiarism, unauthorized access, and/or vandalism of software
• demonstrating knowledge of copyright laws related to the use of computers, software, and technology
• demonstrating knowledge of how to appropriately cite electronic sources
• demonstrating knowledge of health issues related to the use of computers (e.g., eyestrain, repetitive stress injuries)
• Student will have skill in collaborating with other professional staff to support instruction through educational technology that enhances the learning and independence of students with disabilites and special needs

▼ 2 Technology
2.1 Basic Operations

- Students will display expert skills at technology based tasks that are commonly required of educational technologists.

- (12) Student will understand issues relating to software and hardware selection, installation, and maintenance in the educational environment.
  - demonstrating an understanding of how to select effective technological resources appropriate to New York State Learning Standards, instructional objectives, and grade level
  - identifying software used in classroom and administrative settings (e.g., productivity tools, information access and telecommunication tools, multimedia and hypermedia tools, school management tools, evaluation and portfolio tools, computer-based instruction)
  - demonstrating knowledge of procedures for acquiring administrative and instructional software for various educational purposes
  - demonstrating knowledge of evaluation criteria for software (e.g., support of content standards and instructional design, clarity of objectives, scope and scale, quantity of useful information, logical development and organization, appropriate reading and vocabulary levels, identification of bias or distortion of information), and identifying reliable sources of software evaluations.

- (01) Student will understand basic computer operations, concepts and care.
  - demonstrating knowledge of various kinds of hardware, peripheral devices, and software found in the educational environment
  - demonstrating knowledge of terminology related to computers and technology
  - demonstrating knowledge of major operations systems associated with computing platforms found in the educational environment
  - demonstrating knowledge of basic computing procedures (e.g. startup and shutdown sequences, network login procedures, routine system operating configurations)
  - demonstrating knowledge of how to clean and maintain hardware, peripheral devices, and removable media
  - demonstrating knowledge of how to clean and maintain hardware, peripheral devices, and removable media
  - demonstrating knowledge about virus scanning, opening and closing files, multitasking, saving files in multiple formats, and using shared files
  - demonstrating knowledge of the installation of peripheral devices and related software

- (02) Student will understand basic troubleshooting techniques for computer systems and related peripheral devices.
  - recognizing appropriate methods for isolating problems and checking connections
  - demonstrating knowledge of common problems with peripheral devices, Internet connections, and network use
  - identifying strategies for troubleshooting various hardware and/or software configurations
  - demonstrating knowledge of strategies for troubleshooting various hardware and/or software configurations
  - demonstrating knowledge of strategies for troubleshooting basic computer operating systems
• demonstrating knowledge of support resources and information for resolving technical problems

\subsection*{2.2 Specific Technologies}

• Student will apply Educational Technologies for Building Learning Communities and Learning Systems

• Technologies for productivity, communication and presentation

• Technologies for teaching and learning

• Technologies for synthesizing, generating, and evaluating knowledge

• Technologies for building virtual and in-person learning communities/systems

\begin{itemize}
  \item (05) Student will understand the advanced features of technology-based productivity tools
    \begin{itemize}
      \item demonstrating familiarity with the advanced features of word-processing, desktop publishing, graphics programs, and utilities to develop products
      \item demonstrating knowledge of how to use spreadsheets for analyzing, organizing, and displaying numeric data
      \item demonstrating knowledge of how to design and manipulate databases and generate customized reports
      \item demonstrating knowledge of multimedia, hypermedia, and Web-based publishing
      \item demonstrating familiarity with teacher utility and classroom management tools
      \item demonstrating knowledge of how to identify, select, integrate, present, and publish video and digital images
      \item demonstrating familiarity with specific-purpose electronic devices (e.g., graphing calculators, language translators, scientific probeware)
    \end{itemize}

  \item (06) Student will understand the features and uses of telecommunication, information access, and delivery systems
    \begin{itemize}
      \item demonstrating knowledge of how to use telecommunication tools for information access, retrieval, and sharing
      \item demonstrating familiarity with the use of electronic mail and Web browser applications
      \item demonstrating knowledge of advanced online search techniques for identifying and indexing information resources
      \item demonstrating knowledge of a variety of distance learning delivery systems (e.g., computer, audio, and video conferencing)
    \end{itemize}

  \item (07) Student will understand the use of computers and other technologies in research, problem-solving, and product development
    \begin{itemize}
      \item demonstrating knowledge of principles of instructional design associated with the development of multimedia and hypermedia learning materials
      \item demonstrating knowledge of age and grade-level appropriate computer-based technology tools for communicating concepts, conducting research, and solving problems for an intended audience and purpose
      \item demonstrating familiarity with strategies for creating and/or incorporating collaborative online workgroups into instruction to construct and share knowledge
      \item demonstrating knowledge of how to develop instructional units supported by technology that involve compiling, organizing, analyzing, and synthesizing information
    \end{itemize}
\end{itemize}
2.3 Management and Leadership

- Student will actualize themselves and acquire/hone leadership skills

- (11) Student will understand factors involved in creating and maintaining effective learning environments using technology
  - demonstrating knowledge of how to plan learning activities to include appropriate technology resources for students of diverse backgrounds and needs (e.g., prior knowledge cultural and linguistic backgrounds)
  - demonstrating an understanding of how to design, implement, and assess student learning activities that integrate computers and technology
  - demonstrating knowledge of how to adapt or modify computer-based presentations for diverse student populations
  - demonstrating familiarity with adaptive techniques and assistive devices for students
  - demonstrating familiarity with methods for developing and adapting lessons to fit the classroom and the available technology (e.g., one versus multiple computers, networked versus stand-alone computers)
  - demonstrating knowledge of how to manage computer technology activities along with other classroom activities

- (13) Student will understand methods and strategies for the use of computers and other technologies in developing and implementing instructional programs
  - demonstrating knowledge of strategic planning to facilitate curriculum development for teaching with computers and related technologies
  - identifying national and state guidelines for integrating technology in the educational environment (e.g., National Education Technology Standards)
  - evaluating the use of technology in the classroom, and demonstrating knowledge of strategies for revising instruction when necessary
  - demonstrating the ability to assume a leadership role in incorporating technology in the educational environment
  - demonstrating familiarity with methods for promoting the awareness of emerging technologies

- (15) Student will understand issues related to facilities and resource management
  - demonstrating knowledge of budget planning and management procedures (e.g., prioritizing needs) related to educational computing and technology facilities and resources
  - identifying funding sources available at local, state, and national levels and methods for developing grant proposals
  - demonstrating knowledge of procedures (including ethical and legal issues) for resource acquisition and management of technology-based systems including hardware and software
  - demonstrating knowledge of procedures for staffing, scheduling, and maintaining security with regard to the use of computers and technology in a variety of educational environments

2.4 Design and Planning

- Students will plan, design, develop, and implement theoretically-grounded, technology-enhanced teaching and learning systems.

3 Content/Action

- Applying
3.1 Apply
- Lessons Learned in Professional Growth and Scholarship Activities (organization)
- Lessons learned in Technology activities (organization)

3.2 Envision
- Student will envision global teaching and learning systems for now and the future
- Students will creatively envision theoretically-grounded, technology-enhanced teaching and learning systems.

3.3 Implement

3.3.1 Real world issues
- Student will be a competent and caring professional TEAC
- Student will understand the Issues, Challenges, and Opportunities for Applying Technologies in Learning Systems course title

3.3.2 Impact
- Students will identify facilitators of, and impediments to, the implementation of innovations into a given educational environment and appropriately design, develop, and deploy plans to transform personal and professional teaching and learning environments through the integration of appropriate educational technologies.
- Students will create plans to affect and effect change in teaching and learning systems from a professionally-informed perspective.
- Student will impact self mission
- Student will impact real world constituencies mission
- Student will impact self, local constituency/environment, organization, broader communities (may be global/societal).
- Student will use and accept technology as a fundamental tool for building and delivering powerful and meaningful learning systems. do we want to say "accept" ? sounds a bit cultish
- Student will transform teaching and learning in educational settings mission
- Student will design and implement technology enriched learning systems for now and the future framework

3.3.3 Collaborate
- Student will have skill in collaborating with other professional staff to support instruction through educational technology that enhances the listening, speaking, reading, and writing skills of all students NY State - int'l cert.
- Student will have skill in collaborating with other professional staff to support instruction through educational technology that enhances student learning in content areas and in the uses of instructional and assistive technology to acquire information and communicate NY State - int'l cert.

3.4 Evaluate

3.4.1 (14)Student will understand methods and strategies for designing, implementing, and evaluating educational technology professional development programs
- demonstrating knowledge of professional organizations, groups, resources, and activities to support regular professional growth related to technology NY State - Ed. Tech. Test
- demonstrating knowledge of important factors to consider when designing educational technology professional development programs
- demonstrating knowledge of the steps necessary to design, implement, and evaluate educational technology professional development programs
recognizing the importance of creating individualized professional development plans

demonstrating knowledge of models for formal and informal educational technology professional development (e.g., providing in-classroom support, just-in-time training, job-embedded activities, peer-to-peer coaching, workshops)

- Students will effectively and appropriately evaluate educational technologies and assess the outcomes of technology-based learning systems.
- Student will design and evaluate formative and summative outcomes assessment plans for technology-enriched, theoretically grounded learning environments
- Students will be able to apply techniques for Outcomes Assessment and Measurement for Educational Technologists
- Student will have formal and informal methods of assessing student learning and the means of analyzing one's own teaching practice -- and skill in using information gathered through assessment and analysis to plan or modify instruction, and skill in using various resources to enhance teaching

**original goals**

Students will effectively and appropriately evaluate educational technologies and assess the outcomes of technology-based learning systems.

**course title**

Students will design and evaluate formative and summative outcomes assessment plans for technology-enriched, theoretically grounded learning environments.

**course title**

Students will be able to apply techniques for Outcomes Assessment and Measurement for Educational Technologists.

**NY State - int'l cert.**

Student will have formal and informal methods of assessing student learning and the means of analyzing one's own teaching practice -- and skill in using information gathered through assessment and analysis to plan or modify instruction, and skill in using various resources to enhance teaching.

**NY State - Ed. Tech. Test**

Students will understand methods and strategies for planning, delivering, and assessing concepts and skills relevant to educational computing and technology literacy across curricula.

- demonstrating knowledge of methods and strategies for teaching concepts and skills related to computers and associated technologies
- demonstrating knowledge of methods and strategies for teaching concepts and skills for applying productivity, information access, and delivery tools
- demonstrating knowledge of methods and strategies for teaching problem-solving skills using technology resources
- demonstrating knowledge of methods and strategies for evaluating the effectiveness of instructional units that integrate computers and technology

**NY State - int'l cert.**

Student will have means to update knowledge and skills in the subject(s) taught and in pedagogy.

**mission**

Student will develop self-actualized learning.

**course title**

Student will be able to Actualize Technology-Based Learning.

**what do we mean by actualize?**

**4.1 Iteration**

- Student will continually analyze, study, re-seed, and re-study transformational and purposeful learning systems for now and the future.

**framework**

**NY State - int'l cert.**

Student will have field experiences in elementary and secondary schools and college-supervised practica.

**mission**

**4.3 Field Experience**

- Student will be immersed in a working constructivist model.

**mission**