NCATE
Compliance with Specialty Guidelines
Review

Professional Organization: International Society for Technology in Education (ISTE)

Institution Submitting Program: Eastern Michigan University

Program: Educational Computing and Technology Leadership – Advanced Program & Computer Science Endorsement and Degree

Date of Review: June 2003

Degree Levels(s): Graduate

GUIDELINES/PERFORMANCE INDICATORS NOT MET: 4.4.3, 5.6.4

PERCEIVED PROGRAM STRENGTHS:

- Four full-time faculty devoted to these programs!
- Excellent diversity among faculty.
- Excellent technology facilities provided on campus for the program – classrooms, laboratories, portable technology tools, etc.
- Dual platforms (Apple and PC) available to prepare candidates for use of all technologies.
- Wonderful integrated field experiences and teaching methodologies.
- Multiple connections integrating ISTE standards throughout program.
- Performance assessment in place throughout program.
- Strong core course load in all programs!

PERCEIVED PROGRAM WEAKNESSES: None.

COMMENTS:
A very impressive electronic submission! It was very easy for the reviewers to access all information. Well done! It was obvious that this was a very time-consuming venture.

Congratulations on your 25 graduates of your computer science program. We wish you well in the future and hope that your program continues to increase in numbers.

We would recommend that you begin aligning your program experiences to the newly approved ISTE standards to assist in future program report preparation. Remember to align your performance assessments to the performance indicators instead of course activities. Sample aggregated data will only strengthen the report. Best wishes!

Please contact Dianne Porter at dporter@latech.edu should you need any assistance in the future or have any questions.

PROFESSIONAL ASSOCIATION'S RECOMMENDATION REGARDING COMPLIANCE OR NONCOMPLIANCE WITH THE SPECIALTY GUIDELINES (i.e., has the institution adequately met the specialty guidelines?).

Rating (circle): **Fully Met** **Met With Reservations** **Not Met**

Additional information necessary for compliance: None

Educational Computing and Technology Literacy
Basic Endorsement
Institution: Eastern Michigan University

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
1.0 Prerequisite Preparation-Foundations. **1.1 Basic Computer/Technology Operations and Concepts.**				
1.1.1 operate a multimedia computer system with related peripheral devices to successfully install and use a variety of software package.	**X**			
1.1.2 use terminology related to computers and technology appropriately in written and oral communications.	**X**			
1.1.3 describe and implement basic trouble-shooting techniques for multimedia computer systems with related peripheral devices.	**X**			
1.1.4 use imaging devices such as scanners, digital cameras, and/or video cameras with computer systems and software.	**X**			
1.1.5 demonstrate knowledge of uses of computers and technology in business, industry, and society.	**X**			
1.2 Personal and Professional Use of Technology.				
1.2.1 use productivity tools for word processing, database management, and spreadsheet applications.	**X**			
1.2.2 apply productivity tools for creating multimedia presentations.	**X**			
1.2.3 use computer-based technologies including telecommunications to access information and enhance personal and professional productivity.	**X**			
1.2.4 use computers to support problem solving, data collection, information management, communications, presentations, and decision-making.	**X**			
1.2.5 demonstrate awareness of resources for adaptive assistive devices for student with special needs.	**X**			
1.2.6 demonstrate knowledge of equity, ethics, legal, and human issues concerning use of computers and technology.	**X**			
1.2.7 identify computer and related technology resources for facilitating lifelong learning and emerging roles of the learner and the educator.	**X**			
1.2.8 observe demonstrations or uses of broadcast instruction, audio/video conferencing, and other distant learning applications.	**X**			

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
1.3 Application of Technology in Instruction.				
1.3.1 explore, evaluate, and use computer/ technology resources including applications, tools, educational software and associated documentation.	**X**			
1.3.2 describe current instructional principles, research, and appropriate assessment practices as related to the use of computers and technology resources in the curriculum.	**X**			
1.3.3 design, deliver, and assess student learning activities that integrate computers/ technology for a variety of student grouping strategies and for diverse student populations.	**X**			
1.3.4 design student learning activities that foster equitable, ethical, and legal use of technology by students.	**X**			
1.3.5 practice responsible, ethical and legal use of technology, information, and software resources	**X**			
SUMMARY RATING/FOUNDATIONS:	**X**			
2.0 Specialty Content Preparation in Educational Computing and Technology Literacy.				
2.1 Social, Ethical, and Human Issues.				
2.1.1 describe the historical development and important trends affecting the evolution of technology and its probable future roles in society.	**X**			
2.1.2 describe strategies for facilitating consideration of ethical, legal, and human issues involving school purchasing and policy decisions.	**X**			
SUMMARY RATING:	X			
2.2 Productivity Tools.				
2.2.1 use advanced features of word processing, desktop publishing, graphics programs and utilities to develop professional products.	**X**			
2.2.2 use spreadsheets for analyzing, organizing and displaying numeric data graphically.	**X**			
2.2.3 design and manipulate databases and generate customized reports.	**X**			
2.2.4 use teacher utility and classroom management tools to design solutions for a specific purpose.	**X**			
2.2.5 identify, select, and integrate video and digital images in varying formats for use in presentations, publications and/or other products**.**	**X**			
2.2.6 apply specific-purpose electronic devices (such as, a graphing calculator, language translator, scientific probeware, or electronic thesaurus) in appropriate content areas.	**X**			

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
2.2.7 use features of applications that integrate word processing, database, spreadsheet, communication, and other tools.	**X**			
SUMMARY RATING:	**x**			
2.3 Telecommunications and Information Access.				
2.3.1 access and use telecommunications tools and resources for information sharing, remote information access and retrieval, and multimedia/hypermedia publishing.	**X**			
2.3.2 use electronic mail and web browser applications for communications and for research to support instruction.	**X**			
2.3.3 use automated on-line search tools and intelligent agents to identify and index desired information resources.	**X**			
SUMMARY RATING:	**X**			
2.4 Research, Problem Solving, and Product Development.				
2.4.1 identify basic principles of instructional design associated with the development of multimedia and hypermedia learning materials.	**X**			
2.4.2 develop simple hypermedia and multimedia products that apply basic instructional design principles.	**X**			
2.4.3 select appropriate tools for communicating concepts, conducting research, and solving problems for an intended audience and purpose.	**X**			
2.4.4 participate in collaborative projects and team activities.	**X**			
2.4.5 identify examples of emerging program-ming, authoring, problem solving environments.	**X**			
2.4.6 collaborate in on-line workgroups to build bodies of knowledge around specific topics.	**X**			
2.4.7 use a computer projection device to support and deliver oral presentations.	**X**			
2.4.8 design and publish simple on-line documents that present information and include links to critical resources.	**X**			
2.4.9 develop instructional units that involve compiling, organizing, analyzing, and synthesizing of information and use technology to support these processes.	**X**			
2.4.10 conduct research and evaluate on-line sources of information that support and enhance the curriculum.	**X**			
SUMMARY RATING:	X			

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
3.0 Professional Preparation.				
3.1 Teaching Methodology.				
3.1.1 design and practice methods and strategies for teaching concepts and skills related to computers/technologies including keyboarding.	**X**			
3.1.2 design and practice methods and strategies for teaching concepts and skills for applying productivity tools.	**X**			
3.1.3 design and practice methods/strategies for teaching concepts and skills for applying information access and delivery tools.	**X**			
3.1.4 design and practice methods and strategies for teaching problem solving principles and skills using technology resources.	**X**			
3.1.5 observe in a K-12 setting where K-12 computer technology concepts / skills are taught.	**X**			
3.1.6 practice methods and strategies for teaching technology concepts and skills in a lab and classroom setting.	**X**			
3.1.7 identify and support implementation and revision of computer/technology literacy curri-culum to reflect on-going changes in technology.	**X**			
3.1.8 design and implement integrated technology classroom activities that involve teaming and /or small group collaboration.	**X**			
3.1.9 identify activities and resources to support regular professional growth related to technology.	**X**			
3.1.10 describe student guidance resources, career awareness resources, and student support activities related to computing and technology.	**X**			
3.1.11 compare national K-12 computer/ technology standards with benchmarks set by local school districts and critique each.	**X**			
3.1.12 identify professional organizations and groups that support the field of educational computing and technology.	**X**			
3.1.13 design a set of evaluation strategies and methods that will assess the effectiveness of instructional units that integrate computers/technology.	**X**			
SUMMARY RATING:	X			
3.2 Hardware/Software Selection, Installation and Maintenance.				
3.2.1 develop plans to configure computer/ technology systems and related peripherals in laboratory, classroom cluster, and other appropriate instructional arrangements.	**X**			

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
3.2.2 identify and describe strategies to support development of school/laboratory policies, procedures, and practices related to use of computers/technology.	**X**			
3.2.3 research, evaluate, and develop recommendations for purchasing instructional software to support and enhance the school curriculum.	**X**			
3.2.4 research, evaluate, and develop recommendations for purchasing technology systems.	**X**			
3.2.5 design and recommend procedures for the organization, management, and security of hardware and software.	**X**			
3.2.6 identify strategies for troubleshooting and maintaining various hardware/software configurations.	**X**			
3.2.7 identify and describe network software packages used to operate a computer network system.	**X**			
3.2.8 configure a computer system and one or more software packages	**X**			
SUMMARY RATING:	**X**			

Educational Computing and Technology Leadership
Advanced Programs

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
PREREQUISITE PREPARATION. **1.0 Foundations. SUMMARY RATING**	**x**			
2.0 Specialty Content Preparation in Educational Computing and Technology Literacy. SUMMARY RATING	**x**			
3.0 Professional Preparation in Educational Computing and Technology Literacy. SUMMARY RATING	**x**			
4.0 Specialty Content Preparation for Educational Computing and Technology Leadership. SUMMARY RATING				
4.1 Research and Theories.				
4.1.1 summarize and apply principles and practices of educational research in educational technology.	**X**			
4.1.2 summarize major research findings and trends related to the use of technology in education to support integration of technology in a K-12 environment.	**X**			
4.1.3 apply theories of learning, teaching, and instructional design and their relationship to the use of technology to support learning.	**X**			
4.1.4 describe social and historical foundations of education and how they relate to the use of technology in schools.	**X**			
4.1.5 identify research related to human and equity issues concerning the use of computers and related technologies in education.	**X**			
4.1.6 design a research project that includes	**x**			

evaluating the use of a specific technology in a K-12 environment.				
SUMMARY RATING:	**x**			
4.2 Instructional Design and Product Development.				
4.2.1 use and apply more than one computer authoring and/or programming environment.	**X**			
4.2.2 describe the characteristics and uses of current authoring environments and evaluate their appropriateness for classroom applications.	**X**			
4.2.3 describe the characteristics and uses of current programming and scripting environments and evaluate their appropriateness for classroom use.	**X**			
4.2.4 apply instructional design principles to the design of screens, text, graphics, audio, and video in instructional products under development.	**X**			
4.2.5 describe and practice strategies for testing and evaluating instructional products designed.	**X**			
4.2.6 apply instructional design principles to develop substantive interactive multimedia computer-based instructional products.	**X**			
SUMMARY RATING:	**X**			

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
4.3 Information Access and Delivery.				
4.3.1 identify and use information access and telecommunication tools to support research and instruction throughout the curriculum	**X**			
4.3.2 use and implement distance learning delivery systems including computer, audio, and video conferencing.	**X**			
4.3.3 create multimedia presentations using advanced features of a presentation tool and deliver them using computer projection systems.	**X**			
4.3.4 install, configure, and use local mass storage devices and media to store and retrieve information and resources.	**X**			
4.3.5 describe issues related to selecting, installing, and maintaining WANs for school districts.	**X**			
SUMMARY RATING:	**X**			
4.4 Operating Systems.				
4.4.1 identify and describe the major operating systems associated with computing platforms found in K-12 schools.	**X**			
4.4.2 identify and manipulate preferences, defaults, and other selectable features of operating systems commonly found in K-12 schools.	**X**			
4.4.3 use and manipulate net-working software to effectively manage the operation of a LAN.			**x**	**No evidence provided.**

4.4.4 evaluate, troubleshoot, install, and maintain computer operating systems for classrooms and laboratories.	**X**			
SUMMARY RATING:	**X**			
4.5 Software/Hardware Selection, Installation, & Maintenance.				
4.5.1 identify and describe software used in classroom and administrative settings including productivity tools, information access/ telecommunications tools, multimedia/hypermedia tools, school management tools, evaluation/ portfolio tools, and computer-based instruction.	**X**			
4.5.2 investigate and recommend purchasing strategies and procedures for acquiring administrative and instructional software for educational settings.	**X**			
4.5.3 describe evaluation criteria for software and identify reliable sources of software evaluations.	**X**			
4.5.4 identify and implement methods of installation, maintenance, inventory, and management of software libraries.	**X**			
4.5.5 develop and implement ethical and legal procedures for maintaining software libraries.	**X**			
4.5.6 identify and classify adaptive assistive hardware and software for students and teachers with special needs and locate sources to assist in procurement and implementation.	**X**			
SUMMARY RATING:	**X**			

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
5.0 Professional Preparation in Educational Computing and Technology Leadership				
5.1 Instructional Program Development.				
5.1.1 describe and analyze accepted principles of strategic planning to facilitate curriculum design for teaching with computers and related technologies.	**X**			
5.1.2 identify and use national, state, and local guidelines to develop curriculum plans for integrating technology in the K-12 environment.	**X**			
SUMMARY RATING:	**X**			
5.2 Teaching Methodology.				
5.2.1 demonstrate methods for teaching hypermedia development, scripting, and/or computer programming in a problem solving context in K-12 schools.	**X**			
5.2.2 demonstrate methods for teaching at least one modern authoring tool to colleagues & students.	**X**			
5.2.3 demonstrate methods for teaching uses of media-based tools such as television, audio, print media, and graphics.	**X**			

5.2.4 demonstrate methods for teaching social, ethical, and legal issues and responsible use of technology.	**X**			
SUMMARY RATING:	**X**			
5.3 Staff development.				
5.3.1 plan and design staff development programs.	**X**			
5.3.2 describe and identify resources for staff development.	**X**			
5.3.3 plan and customize staff development based on differing audiences including school and district decision-makers.	**X**			
SUMMARY RATING:	**X**			
5.4 Facilities and Resource Management.				
5.4.1 describe and use budget planning and management procedures related to educational computing and technology facilities and resources.	**X**			
5.4.2 identify funding sources available at local, state, and/or national level and collaborate on development of a grant proposal.	**X**			
5.4.3 plan, develop, implement and evaluate strategies and procedures for resource acquisition and management of technology-based systems including hardware and software.	**X**			
5.4.4 identify, describe, and analyze procedures related to basic trouble shooting, preventive maintenance, and procurement of system wide maintenance services.	**X**			
5.4.5 describe and maintain current information involving facilities planning issues related to computers and related technologies.	**X**			
5.4.6 design and develop policies and procedures concerning staffing, scheduling, and security for managing computers/technology in a variety of instructional and administrative school settings.	**X**			
SUMMARY RATING:	**X**			

Standards	Fully Met	Met w/ Reserva	Not Met	Comments
5.5 Managing the Change Process.				
5.5.1 evaluate school and district technology plans recommend improvements.	**X**			
5.5.2 discuss issues relating to building collaborations, alliances, and partnerships involving educational technology initiatives.	**X**			
5.5.3 demonstrate knowledge of effective group process skills.	**X**			
5.5.4 use evaluation findings to recommend modifications in technology implementations.	**X**			
SUMMARY RATING:	**X**			
5.6 Field Experiences.				
5.6.1 observe and compare methods and strategies used in educational technology in a variety of	**x**			

authentic educational settings (i.e., elementary, middle, secondary, adaptive assistive classrooms, labs).				
5.6.2 develop and teach a series of lessons that apply technology resources to support instruction.	**X**			
5.6.3 document and assess a significant field-based activity involving experiences in instructional program development, staff development, facilities and resource management, or managing change related to technology use in schools.	**X**			
5.6.4 document and assess experiences in implementing a WAN or LAN with Internet connectivity.			**x**	**No evidence provided.**
SUMMARY RATING:	**x**			

OVERALL RATING - ECT LEADERSHIP: Fully Met

Secondary Computer Science Education
Initial Degree Program
Name of Institution: Eastern Michigan University

Standards	Fully Met	Met with Reserva	Not Met	Comments
1.0 Prerequisite Preparation				
1.1 Foundations.	**x**			
1.2 Specialty content in ECT Literacy	**x**			
2.0 Specialty Content in CSED				
2.1 Additional Computer Science Content				
2.1.1 use both command-line and graphical user interfaces to perform standard operating system functions (e.g., manage devices and files, load run, and install applications).	**X**			
2.1.2 describe the basic capabilities of computers at the hardware level, including data representation and its limitations or risks.	**X**			
2.1.3 describe the operation of a computer system -- CPU, peripherals, operating system, and application -- indicating the purpose and interaction of the various components.	**X**			
2.1.4 describe the underlying principles of local- and wide-area networks.	**X**			
2.1.5 analyze the risks to correctness, security, and privacy in various applications of computing technology.	**X**			
2.1.6 analyze the impact (on existing social and professional practice) of various applications of computing and the legal and ethical issues arising from the applications.	**X**			
2.2 Educational Technology Content.				
2.2.1 use more than one computer authoring and/or programming environment.	**X**			
2.2.2 use, configure, and install local mass storage devices and media to store and retrieve information and resources.	**X**			

Standards	Fully Met	Met with Reserva	Not Met	Comments
2.2.3 identify and describe the major operating systems associated with computing platforms found in K-12 schools.	**x**			
2.2.4 identify and manipulate preferences, defaults, and other selectable features of operating systems commonly found in K-12 schools.	**X**			
2.2.5 use and manipulate networking software to effectively manage the operation of a computer science classroom LAN.	**x**			
2.2.6 evaluate, troubleshoot, install, and maintain computer operating systems for classrooms and laboratories.	**x**			
2.2.7 identify and implement methods of installation, maintenance, inventory, and management of software libraries.	**x**			
2.2.8 develop and implement policies and procedures for legal and ethical use and maintenance of software libraries	**x**			
2.3 Educational Technology Specialty Area.				
2.3.1 develop projects that reflect in-depth coverage of one or more aspects of educational computing at a level beyond the prerequisite foundations.	**x**			
2.3.2 identify and discuss issues related to the role or use of technology specialty area within the field of education.	**x**			
3.0 Professional Preparation.				
3.1 Classroom and Field Experiences.				
3.1.1 engage in field experiences beginning early in the program with an emphasis on observation, participation, and tutoring, including mini- teaching, diagnosis, planning lessons with other teachers, and writing tests and laboratory exercises.	**x**			
3.1.2 conduct observation of and direct instructional activities in secondary computer science classes.	**x**			
3.2 Special Methods.				
3.2.1 guide secondary students in exploring and reaching principled conclusions about ethical and social issues relating to computing.	**x**			
3.2.2 guide secondary students in assessing the correctness and quality of the computer-based products they have developed.	**x**			

Standards	Fully Met	Met with Reserva	Not Met	Comments
3.3 Student Teaching Experiences.				
3.3.1 participate in a student teaching experience of at least 10 weeks in computer science classrooms.	**x**			
3.3.2 plan and conduct instruction for students in secondary computer science classes.	**x**			
3.3.3 assist with management of secondary computer science classroom laboratories.	**x**			
3.4 Written and Oral Communication Skills.				
3.4.1 develop written and oral communication skills necessary to conduct a computer science class. Evidence of evaluation of proficiency in these areas should be documented.	**x**			
3.4.2 develop written and oral communication skills needed to promote and articulate computer science education and computer literacy to individuals outside the field as well as those within the field.	**x**			
3.5 Research.				
3.5.1 demonstrate knowledge of research pertaining to uses of the computer in the K-12 curriculum.	**x**			
3.5.2 demonstrate knowledge of research pertaining to computer science education.	**x**			
SUMMARY RATING SECONDARY CSED-DEGREE	**x**			

RATING SECONDARY CSED-DEGREE: Fully Met