

Computer Educator's License for Practicing Teachers (CEL – T) Program

Program Description

The Computer Educator's License for Practicing Teachers (CEL – T) Program is a 15 credit hour curriculum at the graduate level resulting in an Indiana Computer Educator's License. This program has been developed in order to provide current teachers in Indiana with an add-on Computer Educators license. The curriculum for this certification is loosely based on the current Computer Endorsement Program within the School of Education. However, this program has been tailored to meet the unique needs of practicing teachers by providing concrete opportunities to develop and utilize the affordances of technology to enhance their current classroom activities, and by providing opportunities to obtain knowledge, skills, and experiences relevant to educational technology leadership roles in K-12 settings. It involves a sequence of four courses focusing on educational technology issues, teaching methods, distance learning techniques, and leadership strategies, and includes an individually-developed practicum project implemented at the participant's school setting as the capstone activity.

The Computer Educator's Licensure Program is designed to not only allow teachers to meet all of the ISTE/NCATE Technology Standards for Teachers, but also meet the ISTE/NCATE Technology Facilitator Initial Endorsement Standards. These standards are designed to prepare teachers to serve as building and district-level technology facilitators. The goal of this program is to develop skilled educators who can serve as both models appropriate technology integration for teaching and learning, and technology leaders for their schools and/or districts. The table below identifies the course sequence and the technology standards for teachers that are met in each of the program's courses:

CEL – T Preparation	NCATE Technology Facilitation Initial Endorsement Standards
R611 – Instructional Technology Foundations	TF-IA, TF-IB, TF-IIC, TF-VC, TF-VD, TF-VIA, TF-VIIIA, TF-VIIIB
R605 – WKSP Computer-Based Teaching Methods	TF-IIA, TF-IIB, TF-IIC, TF-IID, TF-IIE, TF-IIF, TF-IIIA, TF-IIIB, TF-IIIC, TF-IIID, TF-IIIE, TF-IVA, TF-IVB, TF-IVC, TF-VIB, TF-VIC, TF-VB, TF-VC
P506 – WKSP Distance Learning Pedagogy	TF-IIA, TF-IIB, TF-IIC, TF-IID, TF-IIE, TF-IIF, TF-IIIA, TF-IIIB, TF-IIIC, TF-IIID, TF-IIIE, TF-IVA, TF-IVB, TF-IVC, TF-VA, TF-VB, TF-VC, TF-VD, TF-VIA
R505 – WKSP Leadership Issues in Educational Technology	TF-VA, TF-VIA, TF-VIB, TF-VIC, TF-VID, TF-VIE, TF-VIIA, TF-VIIB, TF-VIIC, TF-VIIIA, TF-VIIIB, TF-VIIIC, TF-VIIID
R586 – Practicum in IST	TF-IA, TF-IB, TF-IIA, TF-IIB, TF-IIC, TF-IID, TF-IIE, TF-IIF, TF-IIIA, TF-IIIB, TF-IIIC, TF-IIID, TF-IIIE, TF-IVA, TF-IVB, TF-IVC, TF-VA, TF-VB, TF-VC, TF-VD, TF-VIA, TF-VIB, TF-VIC, TF-VID, TF-VIE, TF-VIIIA, TF-VIIID, TF-VIIIE

Course Sequence and Descriptions for the CEL – T

R511 – Instructional Technology Foundations (3 cr.)

Introduction to the field, theory, and profession of instructional technology, including definitions, history, and current trends and issues.

R505 – Workshop: Computer-Based Teaching Methods (3 cr.)

Integration of educational technology into the school curriculum; methods of teaching computer literacy, computing skills, and programming at K-12 levels, principles of educational software design and evaluation; staff development techniques.

P506 – Workshop: Distance Learning Pedagogy for K-12 Environments (3 cr.)

Online learning is exploding in K-12 settings. In this course, we will demonstrate and discuss dozens of strategies for utilizing the Web in K-12 settings. We will also discuss various evaluation methods for online learning and also point to options in assessment strategies and creating electronic portfolios.

R505 – Workshop: Leadership Issues in Educational Technology (3 cr.)

Course focusing on issues typically encountered by technology leadership personnel at schools. Topics discussed will include planning for, implementing, and integrating technology into classroom activities, staff development and training, Internet acceptable use, acquiring funding for technology initiatives, building stakeholder collaboration, and managing technology systems in school settings.

R586 – Practicum in Instructional Systems Technology (3 cr.)

The development, implementation, and evaluation of a semester-long technology integration project. The scope of the project is negotiated with supervising faculty member prior to its initiation.

Rationale

Today, students from kindergarten to high school are utilizing technology in numerous ways. The Internet and other technologies, from wireless cell phone telephony to game stations that produce dynamic realistic 3D environments, are becoming part of their everyday life; except, that is, in most K-12 contexts. More and more, students are encountering a “digital disconnect” between their use of technology outside and inside of school. Students are ready to embrace new technologies and utilize them to maximize their learning and communication, but most often are not provided with classes or other integrated experiences that foster their development of skills related to the ever increasing breadth of technology alternatives. Teachers trained in technology integration can assist in curriculum development, teach critical classes, and also foster a climate of professional development among a teaching community that could begin the process of recovery. Teachers certified with a Computer Educator’s License could meet this challenge.

Over the last decade, the School of Education has offered a Computer Endorsement that provides advanced technology training for pre-service teachers. However, with the exception of the highly successful TICKIT program developed by Drs. Bonk and Ehman, the School has never provided opportunities for practicing teachers to obtain additional skills and experiences relevant to educational technology. The TICKIT program assisted teachers in rural Indiana schools with acquiring a baseline level of technology expertise and pedagogy, but it did not provide an option for these teachers to obtain Indiana technology educator certification. This proposed program intends to build on the success of the TICKIT program by providing Indiana teachers with high-quality training in technology pedagogy, curriculum integration, and leadership skills, while also providing a state Technology Educator's License.

The growing need for technology leaders. Originally, technology was viewed as a tool for the teacher to use to facilitate direct instruction. Technology training tended to focus on the use of overhead projectors, movie projectors, and more recently video and Powerpoint presentations. Although there is still a significant need to support the professional development of all teachers, there is a new requirement to integrate technology skills and learning experiences among students. Keyboarding skills are introduced in elementary school, and an Introduction to Computer Applications course is offered at both middle and secondary levels, but instructional applications of technology such as Internet searching, Web Quests, information analysis and synthesis, should be prevalent throughout the curriculum.

Due to the increased demand for technology integration and instruction, institutions of higher learning around the state of Indiana and the nation have provided options for teachers to acquire technology skill and literacy credentials. In the state of Indiana, the previous options included a Computer Endorsement that appeared on a teaching license along with the area of concentration for that teacher, or a Computer Educator's license which focused on business applications and training and did not address appropriate uses of technology in a variety of teaching and learning situations. However, these options were only available to pre-service teachers as part of their initial teacher certification program.

With the new IPSB strategy to accredit only licenses and to not recognize endorsements, the higher education community is in the process of redirecting existing resources to meet state and national standards that define the credentials for specific licenses. This new IPSB policy is also leaving some current Indiana teachers with the inability to teach basic and advanced technology classes at their schools. Without a computer educator's license, many schools are not allowing teachers to conduct any technology-related classes, even if they have taught these classes in the past. The Computer Educator emerging from this program would not only be prepared to serve as an effective model for appropriate technology integration in a specific content area (just as in the Computer Endorsement), they would also be able to teach a wide variety of technology courses offered by schools.

The need for a Computer Educator to teach basic and advanced courses, and also assist in the coordination of technology integration and professional development for faculty is needed in virtually all school districts today. The leadership component in this proposed curriculum would provide a teacher with skills and strategies to facilitate communication and collaboration among administrators, librarians, teachers, students, and parents. In addition, this license will provide a teacher with the necessary skills to take on a true "technology leadership" role within a school or school district. Such a resource will greatly increase the effectiveness of not only teachers', but students' use of technology for communication and learning.

Faculty Staffing

Staffing for this new certification program will involve collaboration among faculty in IST and Educational Psychology. Drs. Tom Brush and Bob Appelman will have primary responsibility for the IST courses in the program sequence (R511, R505, R505). Dr. Curt Bonk will have responsibility for the distance learning pedagogy course (P506). The R586 practicum will be a semester-long field-based project that will be negotiated between program participants and their faculty mentor. It is assumed that most practicum projects will be supervised by one of the core faculty in the program. However, other faculty may be willing to supervise practica as the program becomes established.

Goals & Standard Documentation

Meeting the SoE's guiding goals & principles

The IST Department has as its primary mission to foster the appropriate use of technologies to enhance teaching and learning experiences. This is the 4th goal of the school's strategic plan. This goal and the following principles are at the core of the CEL – T program's graduate teaching mission:

1. Community

Teachers in the CEL – T program will be developing a cohort community as they explore new technologies together. In addition, these teachers will be disseminating this knowledge among other teachers at their school and impacting their community with diffusion of technology into their practice of teaching.

2. Critical Reflection

The CEL – T program requires teachers to focus on critical issues concerning the integration of technology in K-12 contexts. It is the goal of this program to integrate issues such as the digital divide, return on investment, technology and information access, engagement, and alternative instructional methods into class discussions and assignments.

3. Intellectual, Personal, and Professional Growth

The curriculum sequence for CEL – T is designed to provide teachers with opportunities to for growth both intellectually and professionally. From an intellectual perspective, teachers will be required to deal with successively more complex tasks and issues as they progress through the program. These activities will challenge teachers to critically examine both their teaching practices and pedagogical philosophies. From a professional perspective, teachers will acquire skills and experiences that will allow them to take on technology leadership roles within any school context.

4. Meaningful Experiences

There is a temptation with technology to simply “play with the tools”. However, in this program teaching and learning are foremost in every task teachers will complete. Thus, experiences will be designed to assist teachers with developing understandings of the potential for learning with a variety of technology tools.

5. Knowledge & Multiple Forms of Understanding

A primary argument for the use of technology in teaching is that it can often provide an alternative path to content, often resulting in new aspects of knowledge acquisition and retention. Within this program, teachers will be exposed to numerous uses of technology to facilitate instruction and knowledge acquisition, including on-line interactions, distance-education environments, technology-enhanced lectures, informal collaborative workgroups, and digital video.

6. Personalized Learning

Each student will enter and leave the CEL – T program with differences in competency, enthusiasm, style, and philosophy. Within the program it will be necessary to compensate for these differences through dialog, smaller homogenous groupings, and individualized learning opportunities. Since these types of teaching strategies are necessary in any learning context, the strategies we use will be made apparent to the students so that they will understand and relate to them, and hopefully, use them in their teaching strategies when they encounter the same situations.

Alignment with P-12 Student Standards

Technology integration and pedagogy has traditionally not been seen as a content subject area. However, it is fast becoming an area of intense study and research. Programs such as Informatics and the School of Library and Information Science are joining IST and Computer Science in this quest for understanding and development. The School of Education recognizes this trend and anticipates its migration to the K-12 environment as well. Content standards for this area are not yet established, but the ISTE/NCATE technology standards that this license would accredit are designed to support all content standards from pre-school through the baccalaureate degree.

Content Meets ISTE/NCATE NETS-T and TF Standards

All National Education Technology Standards for Teachers, and Technology Facilitators would be met by this licensure program (see appendix A for these standards).

NETS-T (Teacher Standards)

Through the ongoing use of technology in the schooling process, students are empowered to achieve important technology capabilities. The key individual in helping students develop those capabilities is the classroom teacher. The teacher is responsible for establishing the classroom environment and preparing the learning opportunities that facilitate students' use of technology to learn, communicate, and develop knowledge products. Consequently, it is critical that all classroom teachers are prepared to provide their students with these opportunities. Both professional development programs for teachers currently in the classroom and preparation programs for future teachers must provide technology-rich experiences throughout all aspects of the training programs. Standards and resources within this document provide guidelines for all teachers but specifically for planning teacher education programs that will prepare teachers to play an essential role in producing technology-capable students.

ISTE/NCATE-TF (Facilitator Standards)

This licensure program will prepare candidates to serve as building/campus-level technology facilitators. Candidates completing this program will exhibit knowledge, skills, and dispositions equipping them to teach technology applications; demonstrate effective use of technology to support student learning of content; and provide professional development, mentoring, and basic technical assistance for other teachers who require support in their efforts to apply technology to support student learning. The International Society for Technology in Education recognizes that educational computing and technology foundations are essential for all teachers. ISTE also acknowledges educational computing and technology specialty areas beyond these foundations and has established program standards for initial and advanced programs. These program standards will assist teacher education units, and professional organizations and agencies in understanding and evaluating the educational preparation needed for specialization within the field.

Integration with Existing Programs

As stated earlier, there is currently no option for practicing teachers to receive a Computer Educator's license from the School of Education. This program is designed to combine custom-designed versions of existing courses to fill a need for practicing teachers. The IST department will implement and oversee the program.

Implementation Plan

Upon approval from the Committee on Teacher Education, the CEL – T program will go through Policy Council and approval by the Deans, and then continue on to the Indiana Professional Standards Board for approval.

After approval from the IPSB, recruitment of teacher cohorts will begin. It is anticipated that 20 teachers will be enrolled in the program per year. Initial courses will be offered during a two-week intensive summer session (anticipated to begin in the summer of 2005). Other courses will be offered in the Fall and Spring dependent upon enrollment. Teacher practicum activities will be negotiated with faculty, but will also be completed during the Fall and Spring semesters.

Assessment is Performance-Based

Faculty in this program will collect artifacts demonstrating the candidate's performances in addressing the program standards, and assess these performances by evaluating artifacts using the appropriate Technology Standard Rubrics and aggregate the performance data collected to provide program-level assessment. The standards and rubrics should help faculty to identify the kinds of experiences they provide in their courses and whether or not those experiences generate performance that approaches, meets, or exceeds the standards. Each major assignment or experience should be planned to address the performance indicators at levels appropriate to prepare candidates for the essential benchmark assessments. Candidates should be aware of the level of expectations for their performance on each assignment and that their performances will be measured against the "meets standard" performance level of the rubric. Rubrics, observation tools, self assessments, and test scores with quantifiable performance assessment ratings are often used to collect performance data that can be used to measure individual performance and be aggregated as evidence of program-level performance. When artifacts are collected in a portfolio, it is preferred to have that portfolio available for online review to substantiate the quality of work of the candidates. The performance artifacts used as evidence in the matrix will be selective, representing benchmark assessment points.