Post-Baccalaureate Certificate

INTEGRATED TECHNOLOGY IN EDUCATION

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Post-Baccalaureate Certificate: Integrated Technology in Education

The Center for Science and Technology Education at the University of Maryland, College Park helping K-12 educators to meet the demands of modern instruction in the digital age with a new **Post-Baccalaureate Certificate (PBC) in Integrated Technology in Education**.

Program Topics Include:
- ☑ **online teaching and learning**,
- ☑ learning in **computer science**,
- ☑ **digital technologies**,
- ☑ **computational thinking**,
- ☑ **online instructional strategies**,
- ☑ issues related to **equity, access, ethics**

> ★ No previous online teaching experience required.
> ★ All backgrounds welcome.
> ★ **NO GRE Required**!

Program Overview

This program features 4 courses for 12 graduate credits. It has been designed to meet the needs of in-service educators interested in expanding and enhancing their abilities to support the technological, and, specifically, the digital literacy of their students.

All courses are exclusively held online to flexibly accommodate the professional demands of teaching. Participation is entirely asynchronous teachers will never be required to log in to learn together at a specific time. Rather, participants complete the program coursework on their own time according to their own schedules within course guidelines.

Integrated Technology in the 21st Century

Technology plays a central and critical role in all our lives. We interact with information, exchange ideas, and share knowledge using technology in complex and dynamic ways.

It has thus become essential that our schools respond to the technological demands of the 21st century by empowering all students to be not only critical consumers and users of the technologies that govern our lives, but *producers*, engaged in meaningful, generative work advancing knowledge through technological literacy.

Learners today lead digital lives and stakeholders in education are responding by requiring academic programs to include meaningful, sophisticated, technology education.

More and more teachers are turning to technology to support instruction. This program will help support teachers of all backgrounds and of all grade levels to navigate challenges and meet the demands of 21st century learning in the digital age.

★**In light of the COVID-19 pandemic, the courses in this program will address current events, policies, teaching practices, and theories of online teaching (and remote teaching).**

Program Schedule & Description

Cohort A - Summer 2020 - Summer 2021	
Semester	**Course**
Summer Session II *July 13, 2020- August 21, 2020*	**TLPL 602**: **Foundations of Technology in Education** *Understand theoretical and practical aspects of technology in education, including how and why we use technology and how it can contribute to greater equity, access, and academic success.*
Fall *August 31, 2020 - December 22, 2020*	**TLPL 600**: **Teaching and Learning with Technology** *Engage in a hands-on review of technology in teaching and learning: how can (and should) digital technologies influence how, what, and where we learn?*
Spring Semester *January 25, 2021 - May 19, 2021*	**TLPL 603**: **Data-driven Decision Making in Schools & Classrooms** *Learn how to collect and analyze state, district, school, and classroom data to inform decisions and improve student learning.*
Summer Session II *July 12th, 2021 – August 20th, 2021*	**TLPL 605: Social, Cultural & Ethical Dimensions of Teaching and Learning with Technology** *Grapple with challenges surrounding the use of technology in schools including privacy, security, and intellectual property. Consider how to best navigate these issues.*

For more information about the course of study, including the course structure, full syllabi, and the online learning platform, please contact Amy Green at <u>amygreen@umd.edu</u>.

Who Should Apply?

This program is for classroom teachers, administrators, program specialists, and other educators wishing to strengthen their own technological and digital literacy and enhance their in-person, online, and remote teaching skills in order to provide powerful learning experiences through innovative, technologically enhanced pedagogies.

Program Advantages

- **Flexibility of asynchronous, online learning:**
  - This program is made up of four graduate-level courses taught exclusively using our dynamic, interactive, online learning platform. We recognize that the work of K-12 educators is demanding and these courses are designed to respond to the professional responsibilities that participants face by allowing opportunities for independent, yet community-oriented learning. Sessions are asynchronous, allowing students to engage in course materials and exercises at their own pace on their own time.

- **Cohort model for collaborative learning**
  - The program leverages the community-building support and structure of a cohort with the networking opportunities of a program that is open to educators across the state.

- **Personalized advising and registration support**
  - The Center for Science and Technology Education provides individual and personalized support to all participants with connections to academic advising, registration information, and even financial aid (including assisting with the coordination of school district tuition reimbursement policies and procedures).

- **Opportunities to learn from and with leaders in the field of Integrated Technology in Education**
  - The courses in this program have been developed and will be taught by prominent faculty and researchers working to advance the integration of technology in education.

- **Earn credits for Computer Science Certification from MSDE**

- **Opportunities to transfer credit towards a master's degree**
  - Participants who successfully complete the program will have the opportunity to transfer some or all of the 12 graduate credits earned through this Certificate towards a related master's degree program.

- **Joining the University of Maryland Graduate School Community**
  - All participants will have access to the multitude of services offered by the UM Graduate school including the Graduate School Writing Center, funding and fellowship opportunities, community-building events, and more!
  - For more information about the UM Graduate School, please visit www.gradschool.umd.edu. To learn more about student services available from the Graduate School, check out their video, "The Periodic Table of Graduate Success!"

Course of Study (required courses)

The certificate program in Integrated Technology in Education provides teachers with the opportunity to develop their skills and knowledge in the ways technology can be used to enhance learning across K-12 classrooms. The program is designed so that participants will be able to complete it in a single academic year (summer 2020 - summer 2021).

All four courses will be offered entirely online and hosted on UMD's ELMS-Canvas learning management system. Canvas is a leading online learning management systems and utilizes multiple online tools that engage students in video and multimedia discussions and teamwork.

The program will offer opportunities for optional in-person meetings for community-building between students, and one-on-one support from faculty.

Course Descriptions

TLPL 602: Foundations of Technology in Education

In this introductory course, we will explore both theoretical and practical dimensions of online teaching and learning from K12 to higher education. **In light of the COVID-19 pandemic, this course will address current events, policies, teaching practices, and theories of online teaching (and remote teaching)**. We will discuss what is meant by "technology" as well as the importance and impact of technological literacy on society in the modern-day digital revolution. We will use a 'hands-on' approach to investigate applications of technology for enhancing K-12 education by working with a variety of technological tools, media, and data. We will discuss how technology can strengthen and add dimension to instructional practices, engage students in the exploration of life-relevant phenomena using 21st-century tools, and advance understanding of disciplinary core ideas.

Through course readings (including empirical and theoretical research articles), online discussions, hands-on activities, collaborative projects, and independent work, participants will develop knowledge, skills, and attitudes relating to:

- Issues of equity and access in online teaching and learning
- Privacy and safety when learning online
- Student engagement and collaborative online learning
- Student motivation and self-regulation learning literature
- Teacher presence and online teaching practices
- Learning assessment design
- Climate and equity in online classrooms, as well as culturally relevant online teaching literature

TLPL 600: Teaching and Learning with Technology

This course provides a dynamic and interactive introduction to teaching and learning with technology. We will explore digital technology and its impact on learning and institutions as we consider "big ideas" of the field of integrated educational technology **including computational thinking**. We will discuss interdisciplinary K-12 practices that integrate technology in the service of understanding core ideas and concepts. We will review concrete examples of technology-infused lessons and technology-based assessments. The course will draw on class discussions, inquiry, instructional technology, and collaborative activities to support teachers to enhance their own teaching practice through technology.

Through course readings (including empirical and theoretical research articles), online discussions, hands-on activities, collaborative projects, and independent work, participants will develop knowledge, skills, and attitudes relating to:

- Ways technology can be used to support and assess student learning, particularly in online instructional programs and in support of remote learning.
- Identifying, evaluating, and integrating technologies for instructional programs
- Designing learning experiences, lessons, and curricular programs that productively integrate technologies and support technological literacy

TLPL 603: Data-driven Decision Making in Schools and Classrooms

This course will explore ways that technology is used to collect, organize, and analyze the myriad types of data generated in schools, including data regarding student progress toward learning, the impacts of behavioral and learning support services, curriculum implementation plans, professional development, and more. We will investigate ways school-based data is managed and work to understand, critique, and inform the decision-making processes involved at the level of the classroom, school, district, and state.

Through course readings, online discussions, hands-on activities, collaborative projects, and independent work, participants will develop knowledge, skills, and attitudes relating to:

- The types of data that are collected, analyzed, and used within schools and across school districts
- How school-based data is collected and analyzed, including technological and digital tools that support data collection and analysis
- Data collection in online instructional programs
- Discussing strategies for using data to improve learning outcomes in in-person, online, and remote learning environments.

TLPL 605: Social, Cultural & Ethical Dimensions of Teaching and Learning with Technology

This course situates technological literacy and the use of technology in the classroom within larger social and cultural contexts. We will explore and discuss the ways that learners may benefit from digital and technological opportunities in school and the potential for those opportunities to support students in the long-term. Along with exploring social opportunities afforded by technology, this course will cover important social and cultural dimensions of technology, including equity, inclusion, ethical issues, questions related to privacy in the digital age, and digital citizenship. We will discuss some of the existing inequities that persist within digital opportunities afforded to students in different cultural, societal, and economic contexts and how teachers might effectively bridge digital divides.

Through course readings, online discussions, hands-on activities, collaborative projects, and independent work, participants will develop knowledge, skills, and attitudes relating to:

- **Long-term social, cultural, ethical, and economic impacts of technological literacy and the use of technology in the classroom as well as in online and remote instructional programs.**
- Decisions made at state and local levels to regulate and support the use of technology in educational contexts.
- Ethical dimensions of technology in the classroom (teaching, copyright, plagiarism,

Cyberbullying, etc.).