# American Public University System

The Ultimate Advantage is an Educated Mind

Education
EDUC650
21st Century Teaching and Learning
Credit Hours = 3
Length of Course = 16 weeks
Prerequisite = EDUC502 Foundations of Curriculum and Instruction

#### **Instructor Information**

Instructor: Email: Office Hours:

#### **Course Description (Catalog)**

This course explores how technology may be used as a tool in the 21st Century classroom to facilitate changes in the ways teachers teach and students learn, and ultimately to stimulate positive changes in education. It also examines how educators can increase their own productivity by using technology for communication and collaboration among colleagues, staff, parents, students, and the larger community. Students will examine the benefits and possible drawbacks of technology use in their classrooms and learn how to integrate technology effectively into their teaching as a means to promote student learning. Students will discover how technology can be an engaging and effective tool in the classroom. Students will also have the opportunity to learn how to incorporate the latest technology and software into the curriculum to support learning. This course addresses the National Educational Technology Standards for Teachers (NETS•T), developed by the International Society for Technology in Education (ISTE); National Council for Accreditation of Teacher Education (NCATE) & West Virginia Professional Teaching Standards (WVPTS). It also incorporates 21st Century Learning Skills. The importance of ICT (information and communication technologies) literacy is emphasized.

## **Course Scope**

In this course students acquire the knowledge, skills, and abilities necessary to exploit instructional technology and the integration of technology in education, the issues involved in educa-

tional technology access and curriculum; including current educational technology standards, and practical application of technology skills as required to promote 21<sup>st</sup> Century teaching and learning.

#### **Course Objectives**

After successfully completing this course, students will be able to:

- 1. Identify applications and issues associated with the components critical to the effective implementation and support of technology-rich learning environments in order to promote ICT (information and communication technologies) literacy. (WVPTS: 1A3, 1B3, 1D1, 2F1, 3A3); (NETS-T: 3A, 3D); (NCATE 1A, 1B, 1C, 1D, 1G, 2B, 2C)
- 2. Implement curriculum plans that apply technology to maximize student learning to diverse students in multicultural settings, promoting global awareness. (WVPTS: 1A3, 1B3, 1D1, 3A3); (NETS-T: 4B, 4D); (NCATE 1A, 1B, 1C, 1D, 1G, 2B, 2C, 4A)
- 3. Plan and design effective learning environments that enhance teacher productivity, administration/management practices, advance student learning outcomes through thinking and problem-solving, and support safety and security considerations. (WVPTS: 1A3, 1B3, 1D1, 2F1, 3A3, 5E2); (NETS-T: 2A, 4A, 5C); (NCATE 1A, 1B, 1C, 1D, 1G, 2A, 2B, 2C, 3A, 3B, 3C, 4A)
- 4. Evaluate technology plans and make informed decisions regarding the use of technology in support of student learning that promotes ICT literacy. (WVPTS: 1A3, 1B3, 3A3); (NETS-T: 5A); (NCATE 1A, 1B, 1C, 1G, 2B, 3A, 3B, 3C, 4A, 4B)
- 5. Use technology to interpret educational data, issues, and trends for boards, committees, parents, and others. (WVPTS: 5E2, 5F1); (NETS-T: 3B, 3C, 5B, 5C, 5D); (NCATE 1C, 2A, 2B, 2C)
- 6. Describe social, ethical, legal, and human issues related to the use of technology in education, emphasizing responsible civic literacy. (WVPTS: 3A3, 5I1); (NETS-T: 4A, 4B, 4C); (NCATE 1G, 2B, 3A, 3B, 3C, 4A)
- 7. Apply technology resources and tools appropriately when implementing administrative practices, instruction, assessment and evaluation. (WVPTS: 5E2); (NETS-T: 2A, 2D, 3A); (NCATE 1B, 1C, 1G, 2B, 3C, 4A)

## **Course Delivery Method**

This course delivered via distance learning will enable students to complete academic work in a flexible manner, completely online. Course materials and access to an online learning management system will be made available to each student. Online assignments are due by Sunday evening of the week as noted and include Forum Board questions (accomplished in groups through a threaded forum), and individual assignments (submitted for review by the Faculty Member). Assigned faculty will support the students throughout this 16 week course.

#### **Course Materials**

Course Textbooks:

## There are three textbooks required for this course:

Lever-Duffy, J & McDonald, J. B. (2011) *Teaching and learning with technology* (4<sup>th</sup> Ed.). Bos ton, MA: Pearson.

Wiske, M.S., Franz, K.R., & Breit, L. (2005). *Teaching for understanding with technology*. San Francisco: Jossey-Bass Inc.

Website: ISTE http://www.iste.org/standards/standards-for-teachers

In addition to the required course texts the following public domain websites are useful. Please abide by the university's academic honesty policy when using internet sources as well. Note website addresses are subject to change.

**APA Format** 

http://www.apa.org

Campus Computing Project

http://www.campuscomputing.net/
International Society for Technology in Education (ISTE)
http://cnets.iste.org/

National Education Technology Plan (NETS)

http://www.ed.gov/about/offices/list/os/technology/plan/2004/index.html

National Educational Technology Standards (NETS): Rubrics <a href="http://www.ncrel.org/tech/nets/rubrics.htm">http://www.ncrel.org/tech/nets/rubrics.htm</a>

Organization for Educational Technology & Curriculum (OETC) http://www.oetc.org/

Technology Foundation Standards for All Students

http://www.iste.org/inhouse/nets/cnets/students/index.htmlTechnology Foundation Standards for All Teachers

http://www.iste.org/inhouse/nets/cnets/teachers/index.html

<u>Technology Foundation Standards for Administrators</u> <u>http://www.iste.org/inhouse/nets/cnets/administrators/index.html</u>

<u>Technology Curriculum and Content Area Standards</u> <u>http://www.iste.org/inhouse/nets/currstands/index.html</u>

US Dept of Education – No Child Left Behind <a href="http://www.ed.gov">http://www.ed.gov</a>

US Dept of Education Office of Educational Technology (OET) http://www.ed.gov/about/offices/list/os/technology/index.html

### **Evaluation Procedures**

## Homework assignments

Throughout the semester you response to various prompts using various technological platforms and constructing papers. These responses will involve analyses of readings, comparing and contrasting the views of authors, and critique of arguments presented by the readings or the class. Assignments will be graded for accuracy of interpretation, rigor of argument, and clarity of expression.

#### Instructional Technology Review

To complete this assignment you must have access to a school. If you are employed in a school you should use your own school to complete the project. If you are not working in a school you will need to find a school willing to share information with you, and give you the opportunity to interview at least one administrator and technology coordinator. Please contact your professor immediately if you are having any problems locating an acceptable school site.

Your task for this assignment is to determine the level of utilization of technology to support the instructional program of your school. Specifically, you should collect information relative to the:

- Use of technology within individual classes; noting the level of technology literacy (e.g. Beginning, Proficient, Transformative);
- Integration of technology within and across the curriculum, again noting the level of technology literacy;
- Impact of technology on instructional pedagogy, again noting technology literacy;
- Results of technology integration related to student gains in learning and whether technology makes learning more relevant and engaging;
- Magnitude of initial and ongoing staff development intended to achieve technological integration and student gains;
- Use of technology systems to track/report administrative actions (e.g. Campus Management, GradPro, etc)

As part of the assignment you will need to gather artifacts such as the school or district's technology plan (if one has been developed). Consider interviewing the principal, technology coordinator, or other knowledgeable employee. Ask probing questions such as how is the use of technology encouraged, supported, and monitored? What types of data, if any, are utilized to report the impact of technology in/on student gains? What types of initial and on-going staff development and technological support are provided to teachers as they incorporate technology in the classroom (curriculum and instruction)? What types of on-going support can be forecasted? Who will provide this type of assistance? How will this type of assistance be funded? Your final review should be in the form of a 10-12 page typewritten paper summarizing your findings. You do not need to provide a critical analysis of the program, only an objective summary.

Provide your professor with the name and location of the school. The information will remain confidential (I will not divulge the information to anyone else), thus allowing you to be as candid as necessary. Supplement your review with an overview of the artifacts you used to collect your information, such as district or school technology plan(s), Internet fair use policies, names of interviewees, etc (e.g., a list of references).

#### **Forum Board Participation**

The Forum Board will be employed as a forum for discussing issues of interest to the class through the web. Students are required to post their biography in the Forum (week 1) and participate each module in a thread. Also, appropriate "NETIQUETTE" should be followed for all postings. Your initial post should be a minimum of 300 words and include outside sources to support your provide depth to the topic. Please return to the forum and interact with your peers by Sunday evening. Include direct questions to challenge your peers and encourage more dis-

cussion on the forums. You are expected to interact with a minimum of two of your peers' post, but are encouraged to go beyond the minimum to earn the highest marks.

Grade Instruments	% of Final Grade
Weekly assignments	45%
Instructional Technology	20%
Review	
Forum participation	35%
TOTAL	100%

The success of this course depends on our ability to have read the assigned readings closely, to have thought carefully about the points raised or ignored by authors, and to bring to the group your questions and concerns about their theses and positions into the forum groups. Prior to each class I will post Announcements and outline the focus of the subsequent session and direct your reading. Having prepared the readings prior to class ensures your productive participation.

Classes will typically begin with a question I have posed the previous week. We should work to achieve conversational exchanges with each other through Forums and emails, constructively challenging each other to think broadly and critically about ideas or assertions posed by the readings.

In all participation and assignments I am looking for evidence of:

- demonstration of substantial knowledge and higher order thinking and analytic skills and application of facts, concepts, terms, and processes learned/read/discussed;
- critical contemplation, i.e., "grapple" with issues and topics;
- appropriate use of knowledge learned;
- imaginative thinking and responses to challenges/problems/issues;
- exploring underlying assumptions about the lifelong value of education and schooling;
- clarity of expression and logical connection among ideas expressed;
- writing that reflects precise and concise thinking;
- · excellent grammar, syntax, and spelling.

# **Course Outline**

# 16 Week Course

	<u> </u>						
<u>Weeks</u>	<u>Topic(s)</u>	<u>Learning Objective(s)</u>	Reading(s)	<u>Assignment(s)</u>			
1-2	Role of technology in continuous improvement of education.	Identify and state the significance of ISTE to public education.  Recognize the ISTE technology standards and profiles.  Reflect critically on the implementation of the ISTE standards.  Describe the "Profiles for Technology Literate Students" performance indicators (and associated rubrics) describing the technology competence students should exhibit upon completion of the following grade ranges:  a. Grades PreK – 2 b. Grades 3 – 5 c. Grades 6 – 8 d. Grades 9 – 12  Compare and contrast your current teaching approach with the teaching for understanding framework.	etc.  Lever- Duffy & McDonald:	Assignment #1: In this lesson we reviewed the 2008 ISTE Standards for Teachers. Standard #3 suggests, "Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society". We are expected to model the use of technology in the classroom.  Create a free video using the Animota software (animoto.com) or another video slideshow program. The software is rather user friendly, but if you are having any issues there are a number of "how to" video available on YouTube to walk you through the process. Just go to YourTube.com and search "How to use Animoto".  Your assignment should include the following elements:  a. 30 seconds in length (this is the length available through the "Lite Plan"). 20 pts.  b. Include images/video of the technology that you use or are available to use in the classroom. 20 pts.  c. Insert text (short descriptions) of the elements included 20 pts.  d. Include music that sets a tone for your video. 20 pts.  e. Once published, send me your link to the video in the assignment submission. 10 pts.  f. In your "submission box", respond to ISTE standard #3 and include a short description of how you might use Animoto in an assignment you or someone else has created and how this might impact the students' learning experience. 10 pts.			

				Participate in Forum #1 – View the following Youtube video on technology and education (http://www.youtube.com/watch?v=egRVc3R1u1U). What is your reaction to video? Did anything surprise you? Offend you? What issues would you like your peers to comment on from the video? Please include outside references to support the points you make in your posts (this as a great opportunity to demonstrate your understanding of this week's readings and objectives). Post biography in Forum Board Blog Forum Post  Review the ISTE Standards: <a href="http://www.iste.org/standards/standards-for-teachers">http://www.iste.org/standards/standards-for-teachers</a>
<u>Weeks</u>	<u>Topic(s)</u>	<u>Learning Objective(s)</u>	Reading(s)	<u>Assignment(s)</u>

3- 4	Teaching computer search skills  Technology framework for NCLB. (Title II, Part D)  Digital Edge Project	Identify how technology may make hard to understand topics more understandable.  Explain and provide examples of how technology usage in various classrooms can enhance instruction rather than trivialize it.	ters 1 & 2	Submit Assignment #2 - Instructions: I would like you to create an animated video using Go! Animate (http://goanimate.com/) or another similar web resource. Go! Animate allows you to create a free account and use. For this assignment I would like you to make an animated video and have your characters discuss an instructional situation/lesson and, through explanation and examples, discuss how technology may be applied to enhance student learning. Include research that discusses the use of technology and how this applies to your situation/lesson.  You will need to publish your movie and submit it for grading in the assignment page. Please provide the URL of the video. In the assignment submission box, describe how you believe this program might be useful in the classroom environment.  Participate in Forum #2 - The No Child Left Behind law says that "technology literacy" must be measured in the eighth grade, starting in 2006. What do you believe to be the components of technology literacy that should be measured? Help each other refine your conceptualization of components.
<u>Weeks</u>	<u>Topic(s)</u>	<u>Learning Objective(s)</u>	Reading(s)	<u>Assignment(s)</u>
5- 6	Obstacles to Technology Integration	Identify the general obstacles to implementation	Lever- Duffy &	Submit HW#3 – Read the article on Multimedia in Education: http://encyclopedia.jrank.org/articles/pages/6821/Multimedia -in-Education.html. Multimedia in Education - Introduction. The Ele-

instruction	ware and how these ob these obtains the second of the second	the ad- s/disadvantages al software" e on the Web  e examples of use Web-based ions  Wiske, Franz & Breit: chap ter 3	Resources, Concerns  The article discusses five basic types of media in the learning environment: text, video, sound, graphics and animation.  Create an account at Glogster.com (www.glogster.com) and develop your own "Glog" (an interactive on-line poster) that includes examples and discusses the impact of the five basic types of multimedia (be sure to include outside sources/research in your glog). You will need to publish the glog and submit a link to the Glog in the submission box when complete. Please see an example here done by a previous student: outlook.com:443/owa/redir.aspx  Participate in Forum #3 – Listen to the following podcast on multimedia in the classroom. Although it discusses multimedia from the perspective of the elementary classroom, much of the content is also applicable to the K-12 classrooms. Based upon the issues addressed in the podcast, share a lesson you have used or locate a lesson on the web that incorporates multimedia. Describe the lesson and how the media impacts student learning? Is there a way you might be able to improve the lesson?  http://www.archive.org/details/EducationalMultimediaPodcast
<u>Weeks</u> <u>T</u>	opic(s) <u>Learni</u>	ing Objective(s) Reading(s	<u>Assignment(s)</u>

7- 8	Staff development	Explain why preparing teachers to integrate technology is an organizational phenomenon.  Discuss four approaches to professional development for technology integration.  Explain why technology is often not strongly adapted.	Lever- Duffy & McDonald: chapter 6, 11 Wiske, Franz & Breit: chapters 4	Submit HW#4 - : Present a professional development plan for a district that is designed to assist teachers in integrating technology into instruction. Include goals, objectives, topics, and frequency/length of delivery of the plan.  Participate in Forums:  Forum #1: Professional Development Blog Forum #2: Describe at least three factors that you believe are most important in predicting the overall effectiveness for professional development in technology integration. Please take the time to read the following PDF on Professional Development & Technology Integration: http://www.rcet.org/research/publications/situatedPD2.pdf
9- 10	International and multi- cultural issues; a global perspective.  K-12 Bridging the "digi- tal divide."	Explain how learning through collaboration and "connected learning" with teachers and students from around the world can help students become more responsible global citizens and enhance student learning.  Describe the importance of integrating the computer culture, the classroom culture, and students' learning preferences.  Describe how the use of technology can improve student reflection, collaboration skills and an	Lever- Duffy & McDonald: chapter 4 Wiske, Franz & Breit: chap- ters 5-6	Read the article in this week's module on technology's impact on multiculturalism and motivation. In this article the authors references an earlier publication by one of the co-authors, Chisholm (1998), where she identified six culturally supportive teaching elements for technology integration: *Cultural awareness is an acknowledg ement of cultural and individual differences through implementation of instructional and learning activities that support varied learning preferences, multiple intelligences, and native languages. *Cultural relevance is achieved through culturally congruent and culturally relevant learning activities. *Cultural ly supportive environments are safe and inclusive and integrate the learner's culture, family, and community. *E quitable access provides learners with access to technology in ways that best meets their needs. *Instructional fle x-ibility is the use of varied modes of delivery and assessment that harmonize with the learners' strengths and preferences. *Instru c-tional integration is an acknowledgement of technology as an essential tool for learning and teaching (p. 3).

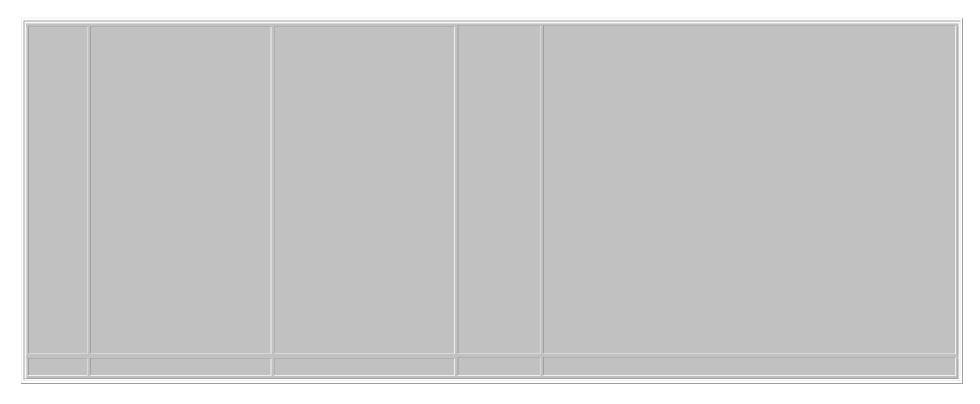
		enhanced sense of community.  Develop lessons that effectively integrate technology to enhance student learning.		Create a brief lesson that you feel does a good job using "culturally supportive" elements as identified by Chrisholm (1998). I recommend you view a few examples before you create your own. On your "Teacher Page" tab for your webquest, please include a brief explanation for why you believe your lesson is culturally relevant and increases awareness. Be sure to publish your webquest (otherwise I cannot view) and submit your "public" URL for grading.  Participate in Forum #5 – Green (2002) notes, "we need to find the courage to ask questions and communicate clearly to avoid drama and sadness in our lives. We need to learn to stop making assumptions based on how people look, sound, and act. Can using technology in the classroom help us to achieve this?" (para. 25). In what way(s) might technology expand or not expand students' reflection, collaboration skills, and sense of community. Consider that some people object to students' sitting in front of the computer and not interacting with their present peers, while other people are excited about students' ability to contact others across the globe. Challenge each other on the assertions. You might also inquire with people in your neighborhood on this item and reflect on their responses.
<u>Weeks</u>	<u>Topic(s)</u>	Learning Objective(s)	Reading(s)	<u>Assignment(s)</u>
11- 12	Leading change for technology integration.  Technology use plans:	Describe how effective leadership is needed to support effective technology integration.  Explain the purpose and components of a technology use plan.	Lever- Duffy & McDonald: chapters 7-8 Wiske.	Submit HW#6: Create a free Educational Teacher Trial account at pixton.com (www.pixton.com) or another cartoon creator platform that you prefer and create a cartoon conversation between two teachers discussing their thoughts on the importance of powerful integration of technology. The website has "how to" videos that should be viewed to make the use of the platform a bit easier for you. Please be sure your characters include examples and discuss at least three important elements of powerful integration of technology in the classroom. Your cartoon should include at least three frames or scenes and include outside sources/research in your cartoon (e.g. your character could site an arti-

	schools b. Secondary schools	Apply technology to weekly class lessons.	Franz & Breit: chap- ter 7	cle). Once you save your project, go back to "My Cartoons" and you will see a link to submit your cartoon in the submission box.  Participate in Forum #6 – Obtain a Technology Plan from a local school district or find one online. Based on the plan, pose
				a question to your colleagues in this class for which you would like their opinion in relation to improvement of the plan. For example: The plan I am examining does not do To what extent do you think that is critical or not for the implementation of instructional technology?
Weeks	<u>Topic(s)</u>	<u>Learning Objective(s)</u>	Reading(s)	Assignment(s)
13- 14	TEACH Act  Copyright and Fair Use Guidelines for Teachers  Establishing a culture of proper use of technology.  Incorporating Cyber Ethics into the Classroom	Define ethics and copyright and how these apply when using the Internet.  Describe Fair Use as it applies to the Internet and published Web pages.  Discuss the complexities of ethical uses of technology.	Lever- Duffy & McDonald: chapter 13 Wiske, Franz & Breit: chap- ter 8	Submit HW#7: Select an ethical issue that relates to the use of technology in the classroom that you believe has or will impact your classroom (e.g. "Fair use", privacy, cyber bullying, digital divide, etc.). Research and construct a "Prezi" presentation on this issue. Prezi is a free presentation software that provides a unique way of doing presentation (think of it as a variation of PowerPoint or Keynote). You will need to go to Prezi.com and create an account. If you haven't used the software, please take a few minutes to watch the tutorial video available on how to construct your presentation.  In your presentation, please include a description of the issue and its impact in the classroom (including how it impacts your classroom), what is being done, steps others are taking to deal with this issue, and develop a plan to help deal/alleviate the problem in your school or classroom. Once it is completed, please copy the "embed" link and paste that into an e-mail and through the assignment page and send this to me.

<u>Weeks</u>	<u>Topic(s)</u>	Learning Objective(s)	Reading(s)	Participate in Forum #7: Barcalow's (2001) Code of Technology Ethics looks at some of the important issues that we as teachers face in the classroom. Of the 18 standards identified, which five would you suggest are most critical in our classrooms and for our students. Discuss your standards selected, providing examples, how they might impact your classroom and what you will do to help uphold these standards. A PDF version of the standards and rationale is available here: http://lrs.ed.uiuc.edu/students/bweinert/304code.pdf.  Assignment(s)
15- 16	Challenges of creating an information infrastructure.  Using technology to:     a. obtain information     b. organize information     c. analyze information     d. share information	Explain how standards-driven assessments require rethinking curriculum, instruction and assessment and impact technology usage  Describe how technology can change the culture of a school.  Defend the need for an information infrastructure that is student centered.  Explain the issues surrounding the "publicness" of data provided to parents and the larger community.	Lever- Duffy & McDonald: chapter 14 Wiske, Franz & Breit: chap- ter 9	Participate in Forums: Forum #1: Technology & Learning; Forum #2: Reflection  Submit Instructional Technology Review: To complete this assignment you must have access to a school. If you are employed in a school you should use your own school to complete the project. If you are not working in a school you will need to find a school willing to share information with you, and give you the opportunity to interview at least one administrator and technology coordinator. Please contact your professor immediately if you are having any problems locating an acceptable school site.  Your task for this assignment is to determine the level of utilization of technology to support the instructional program of your school. Specifically, you should collect information relative to the:  • Use of technology within individual classes; noting the level of technology literacy (e.g. Beginning, Proficient, Transformative); • Integration of technology within and across the curricu-

opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS. lum, again noting the level of technology literacy; Impact of technology on instructional pedagogy, again noting technology literacy; • Results of technology integration related to student gains in learning and whether technology makes learning more relevant and engaging; • Magnitude of initial and ongoing staff development intended to achieve technological integration and student gains; • Use of technology systems to track/report administrative actions (e.g. Campus Management, GradPro, etc) As part of the assignment you will need to gather artifacts such as the school or district's technology plan (if one has been developed). Consider interviewing the principal, technology coordinator, or other knowledgeable employee. Ask probing guestions such as how is the use of technology encouraged, supported, and monitored? What types of data, if any, are utilized to report the impact of technology in/on student gains? What types of initial and on-going staff development and technological support are provided to teachers as they incorporate technology in the classroom (curriculum and instruction)? What types of on-going support can be forecasted? Who will provide this type of assistance? How will this type of assistance be funded? Your final review should be in the form of a 10-12 page paper summarizing your findings. You do not need to provide a critical analysis of the program, only an objective summary.

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#### Selected Bibliography

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