



# EXTENDED CAMPUS

COLLEGE *of* PROFESSIONAL  
*and* CONTINUING STUDIES

## ILAC 6960-221: Learning and Technology

### Course Description:

This course will focus on research on and methods of incorporating technology in the teaching and learning of all subjects. Of particular interest are philosophical, social, developmental, and theoretical issues associated with the development and use of technology and school reform. Readings will provide opportunity for discussion and critique of current educational practices and potential educational futures.

### Class Dates, Location and Hours:

Dates: July 31 - August 5, 2018

Location: Stuttgart, Germany. See site director for classroom location.

Hours: Tuesday - Friday 6:00-9:30 pm; Saturday and Sunday 8:30 a.m.-4:30 p.m.

Last day to enroll or drop without penalty: July 2, 2018

### Site Director:

Email: [apstuttgart@ou.edu](mailto:apstuttgart@ou.edu). DSN: 431-3304 or CIV 07031-2580.

### Professor Contact Information:

Course Professor: Timothy A. Laubach, Ph.D.

Mailing Address: 820 Van Vleet Oval, Rm 114  
Norman, OK 73019

Telephone Number: (405) 325-1498

E-mail Address: [laubach@ou.edu](mailto:laubach@ou.edu)

Professor availability: The professor will be available via e-mail to students before and after the in-class sessions. On-site office hours are half an hour before and after each class session, by appointment.

### Textbook(s) and Instructional Materials:

Materials posted on the OU Canvas learning management system: Access Canvas at <https://canvas.ou.edu>, enter your OU NetID and password, and select course to access material. If you require assistance with Canvas, please click on the Help icon. You can search the Canvas guides, chat with Canvas support, or contact OU IT.

### Course Objectives:

- Describe philosophical, social, developmental, and theoretical issues associated with the development and use of technology
- Evaluate or critique the use of current and emerging technologies for the purpose of teaching and learning across disciplinary contexts
- Develop personal mastery using current and emerging technologies for the purpose of teaching and learning across disciplinary contexts
- Demonstrate the ability to use current and emerging technologies for the purpose of teaching and learning across disciplinary contexts
- Critique the implications of technological innovation and obsolescence

**Course Outline:**

**Prior to In-Person Class Meeting: July 3-July 30, 2018 (all times are Stuttgart time, which is 7 hours ahead of Norman, Oklahoma time)**

Date	Assignment
Week 1 July 3-9	<b>Introduction and Technology Use</b> Familiarize yourself with the Canvas course website. Complete the online diagnostic assessments by <b>Wednesday, July 4, 11:59 PM.</b> Complete Doodle Poll for Canvas Conference by <b>Wednesday, July 4, 11:59 PM.</b> Participate in Canvas Conference (approximately 60-90 minutes), <b>Sunday, July 9, TBD.</b>
Week 2 July 10-16	<b>Learning Attributes and Technology</b> Complete the online diagnostic assessment by <b>Wednesday, July 11, 11:59 PM.</b> Complete sample lesson annotation by <b>Saturday, July 14, 11:59 PM.</b> Submit Canvas Discussion response by <b>Monday, July 16, 11:59 PM.</b>
Week 3 July 17-23	<b>Learning Attributes and Technology, Continued</b> Complete the online diagnostic assessment by <b>Wednesday, July 18, 11:59 PM.</b> Complete taxonomy exploration guide by <b>Saturday, July 21, 11:59 PM.</b> Submit Canvas Discussion response by <b>Monday, July 23, 11:59 PM.</b>
Week 4 July 24-30	<b>Learning Attributes and Technology, Continued</b> Complete the online diagnostic assessment by <b>Wednesday, July 25, 11:59 PM.</b> Complete lesson exploration guide by <b>Saturday, July 28, 11:59 PM.</b> Submit Canvas Discussion response by <b>Monday, July 30, 11:59 PM.</b>

**During In-Person Class Meetings: July 31-August 5, 2018 (all times are Stuttgart time, which is 7 hours ahead of Norman, Oklahoma time)**

Date	Readings/Activities	Assignment Due Date
Class 1 July 31 Tuesday	<b>Re-Introductions and Our Use of Technology</b> Activity: Mapping Bloom's Digital Taxonomy Reading: "Bloom's Digital Taxonomy" (Churches, 2009)	In-class writing: Exit Slip
Class 2 August 1 Wednesday	<b>Framework for Technology Integration</b> Activity: Unpack TPACK Reading: "Teachers' Technological Pedagogical Content Knowledge and Learning Activity Types: Curricula-based Technology Integration Reframed" (Harris, Mishra, & Kohler, 2009) Video: "What is the TPACK Model"	In-class writing: Data Organizer

Date	Readings/Activities	Assignment Due Date
Class 3 August 2 Thursday	<b>Analysis of Technologies in Action</b> Activity: Case Studies of Teacher Knowledge	In-class writing: Discussion Prompt
Class 4 August 3 Friday	<b>Analysis of Technologies in Action, Continued</b> Activity: Case Studies of Teacher Knowledge; Practitioner's Guide to Technology, Pedagogy, and Content Knowledge (TPACK): Rich Media Cases of Teacher Knowledge (Hofer, Bell, Bull, Barry, & Cohen, 2015) <b>Activity:</b> Create personal product using technology	In-class writing: Explanation
Class 5 August 4 Saturday	<b>Additional Frameworks for Technology Integration</b> Video: "TIM Intro Video" Activity: TIM Matrix Video: "The RAT Technology Integration Model" Reading: "Assessing Technology Integration: The RAT Framework" (Hughes, Thomas, & Scharber, 2006) Video: "Triple E Framework" Reading: "Learning First, Technology Second" (Kolb, 2017) Activity: Triple E Measurement Tool <b>Digital Natives &amp; Digital Immigrants: Fact or Fiction</b> Video: "Digital Natives & Digital Immigrants" Complete TED-Ed Talk - Watch, Think, Dig Deeper, Discuss Reading: "Digital Native, Digital Immigrants" (Prensky, 2001) and "The Digital Native - Myth and Reality" (Selwyn, 2009)	In-class writing: Exit Slip
Class 6 August 5 Sunday	<b>Implications of Technology: Obsolescence, Disruptive Technology</b> Video: "Following the Trail of Toxic E-Waste" Reading: "Free, Simple and Easy to Use: Disruptive Technologies, Disruptive Innovation and Technology Enhanced Learning" (Flavin, 2017) Activity: Individual work on Final Assignment Activity: Final thoughts/wrap-up	In-class writing: Reaction/Reflection

**Following In-Person Class Meetings: August 6-26, 2018 (all times are Stuttgart time, which is 7 hours ahead of Norman, Oklahoma time)**

Date	Assignment
Week 6 August 6-12	Submit Work in Progress Memo by <b>Sunday, August 12 at 11:59PM.</b>
Week 7 August 13-19	Post a display of your Final Project (Canvas) and submit to instructor by <b>Sunday, August 19 at 11:59PM.</b>

Date	Assignment
Week 8	Submit Final Project Peer Critiques (Canvas) by <b>Friday, August 24 at 11:59PM</b>
August 20-26	Submit Final Project Reflection by <b>Sunday, August 26 at 11:59PM.</b>

### **Assignments, Grading and Due Dates:**

#### **Diagnostic Assessments (July 4, July 11, July 18, July 25 by 11:59PM)**

Each week prior to the face-to-face portion of the course, you are expected to complete a diagnostic formative assessment of your current knowledge that directly relates to the experiences for each specific week.

#### **Introduction Assignments (July 4 by 11:59PM)**

You are expected to familiarize yourself with the course Canvas website and complete the Doodle Poll for Canvas Conference.

#### **Class Participation (July 9: Canvas Conference; July 31, August 1, 2, 3, 4, & 5)**

You are expected to act professionally in both speech and action during the online and in-class portions of the course. This includes but is not limited to the following:

1. Coming to class on time
2. Staying for the entire class
3. Being attentive during class discussions
4. Willingly participating in group assignments
5. Respecting the comments and questions made by fellow students during both small and large group discussions
6. Refraining from any behavior that disrupts the academic process.

You will be expected to participate actively in each class session and prepare for each session by doing the assigned readings and activities.

#### **Lesson Activity Types Assignments (July 14, July 21, July 28 by 11:59PM)**

You are expected to annotate a sample technology-supported lesson and post to Canvas; complete a lesson taxonomy guide and post to Canvas; complete a lesson exploration guide and post to Canvas. Resources will be provided on Canvas.

#### **Online Discussions (July 16, 23, 30 by 11:59PM)**

You are expected to respond to Canvas discussion prompts related to each lesson activity types assignment. You are encouraged to respond to others' comments.

#### **In-Class Writing (July 31, August 1, 2, 3, 4, & 5 by the end of each class session)**

As part of each face-to-face class session, you are expected to complete an in-class writing task that directly relates to your experiences/understandings/reactions to that session. Class time will be provided to complete this assignment.

#### **Final Assignment (August 5, August 12, August 19, August 24, August 26 by 11:59PM)**

You will demonstrate the ability to use current and emerging technologies for the purpose of teaching and learning across disciplinary contexts. You will work with the instructor to select a topic and design a technology-based product (e.g. iMovie, website, blog). There are six steps/parts to this assignment:

1. **Proposal (August 5)** – post an initial idea for your Final Assignment to Canvas. This must include a possible topic(s) and product(s).
2. **Work In-Progress Memo (August 12)** – email the instructor a memo describing the following: (1) aspects of the Final Assignment that are complete; (2) aspects of the Final Assignment that need to be

completed; (3) questions or concerns about your project; and (4) the ways in which this project draws from this course.

3. **Final Project (August 19)** – submit your Final Project (based on proposal and instructor feedback).
4. **Display/Share Final Project (August 19)** – post your product link to Canvas Discussion Board in order to share with other members of the class.
5. **Peer Critique (August 24)** – examine each colleague’s Final Project and provide at least one constructive comment to Canvas Discussion Board about the work in the context of course experiences and/or readings.
6. **Written Reflection (August 26)** – Within the context of learning and technology, you will reflect on the process and product you created (referencing to course experiences and/or readings) and peer critiques (approximately 500 words).

**Grading:**

This is a letter-graded course: A, B, C, D, or F.

A = 180-162; B = 161-144; C = 143-126; D = 125-108; F = 107 or below

Assignment	Due Date	Points
Diagnostic Formative Assessments (5 points per assessment)	<b>July 4, 11, 18, 25</b>	20
Doodle Poll for Canvas Conference (5 points)	<b>July 4 by 11:59PM</b>	5
Class (online and face-to-face) Participation (5 points per online and face-to-face sessions)	<b>July 9 (TBD), July 31, August 1, 2, 3, 4, &amp; 5</b>	35
Lesson Activity Types Assignments (10 points per assignment)	<b>July 14, 21, 28 by 11:59PM</b>	30
In-Class Writing (5 points per face-to-face class session)	<b>July 31, August 1, 2, 3, 4, &amp; 5 by the end of each class session</b>	30
Final Assignment Proposal (5 points) Work in Progress Memo (5 points) Submit Final Project (25 points) Display/Share Final Project (5 points) Peer Critiques (10 points) Written Reflection (10 points)	<b>August 5 by end of class              August 12 by 11:59PM              August 19 by 11:59PM              August 19 by 11:59PM              August 24 by 11:59PM              August 26 by 11:59PM</b>	60

**Notice:** Failure to meet assignment due dates could result in a grade of I (Incomplete) and may adversely impact Tuition Assistance and/or Financial Aid.

## **POLICIES AND NOTICES**

### **Attendance/Grade Policy**

Attendance and participation in interaction, individual assignments, group exercises, simulations, role playing, etc. are valuable aspects of any course because much of the learning comes from discussions in class with other students. It is expected that you attend all classes and be on time except for excused emergencies.

Excused absences are given for professor mandated activities or legally required activities such as emergencies or military assignments. It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays. Unavoidable personal emergencies, including (but not limited to) serious illness; delays in getting to class because of accidents, etc.; deaths and funerals, and hazardous road conditions will be excused.

If you are obtaining financial assistance (TA, STAP, FA, VA, Scholarship, etc.) to pay all or part of your tuition cost, you must follow your funding agency/institution's policy regarding "I" (Incomplete) grades unless the timeline is longer than what the University policy allows then you must adhere to the University policy. Students who receive Financial Aid must resolve/complete any "I" (Incomplete) grades by the end of the term or he/she may be placed on "financial aid probation." If the "I" grade is not resolved/completed by the end of the following term, the student's Financial Aid may be suspended making the student ineligible for further Financial Aid.

Students are responsible for meeting the guidelines of Tuition Assistance and Veterans Assistance. See the education counselor at your local education center for a complete description of your TA or VA requirements.

### **Academic Integrity and Student Conduct**

Academic integrity means honesty and responsibility in scholarship. Academic assignments exist to help students learn; grades exist to show how fully this goal is attained. Therefore all work and all grades should result from the student's own understanding and effort.

Academic misconduct is any act which improperly affects the evaluation of a student's academic performance or achievement. Misconduct occurs when the student either knows or reasonably should know that the act constitutes misconduct. Academic misconduct includes: cheating and using unauthorized materials on examinations and other assignments; improper collaboration, submitting the same assignment for different classes (self-plagiarism); fabrication, forgery, alteration of documents, lying, etc...in order to obtain an academic advantage; assisting others in academic misconduct; attempting to commit academic misconduct; destruction of property, hacking, etc...; intimidation and interference with integrity process; and plagiarism. All students should review the Student's Guide to Academic Integrity at [http://integrity.ou.edu/students\\_guide.html](http://integrity.ou.edu/students_guide.html)

Students and faculty each have responsibility for maintaining an appropriate learning environment. All students should review policies regarding student conduct at <http://studentconduct.ou.edu/>

### **Accommodation Statement**

The University of Oklahoma is committed to making its activities as accessible as possible. For accommodations on the basis of disability, please contact your local OU Site Director.

### **Adjustment for Pregnancy/Childbirth-Related Issues**

Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact me as soon as possible to discuss. Generally, modifications will be made where medically necessary and similar in scope to accommodations based on temporary disability. Please see <http://www.ou.edu/content/eoo/faqs/pregnancy-faqs.html>.

## **Title IX Resources**

For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including advocates on-call 24/7, counseling services, mutual no-contact orders, scheduling adjustments, and disciplinary sanctions against the perpetrator. Please contact the Sexual Misconduct Office at [smo@ou.edu](mailto:smo@ou.edu) or (405) 325-2215 (8-5), or the Sexual Assault Response Team at (405) 615 -0013 (24/7) to report an incident. To learn more about Title IX, please visit the Institutional Equity Office's website at <http://www.ou.edu/content/eoo.html>

## **Course Policies**

Advanced Programs policy is to order books in paperback if available. Courses, dates, and professors are subject to change. Please check with your OU Site Director. Students should retain a copy of any assignments that are mailed to the professor for the course. Advanced Programs does not provide duplicating services or office supplies.

Any and all course materials, syllabus, lessons, lectures, etc. are the property of professor teaching the course and the Board of Regents of the University of Oklahoma and are protected under applicable copyright.

For more information about Advanced Programs, visit our website at: <http://www.goou.ou.edu/>

## INSTRUCTOR VITA

**Timothy A. Laubach, Ph.D.**

### Education

- Ph.D. Science Education, University of Oklahoma, Norman, OK, December 2005
- M.Ed. Science Education, University of Oklahoma, May 1998
- B.S. Earth Science Education, Coaching Minor, Tennessee Temple University, Chattanooga, TN, May 1995

### Current Positions

- Associate Professor of Science Education
- Director of the John W. Renner Science Education Center

### Frequently Taught Advanced Programs Courses

- ILAC 5143, Theory and Research in Education
- ILAC 6960, Learning and Technology

### Major Areas of Teaching and Research Interest

I primarily teach undergraduate and graduate science education courses. My major research interests include STEM education, pre-service teacher education, outdoor education, and educational robotics.

### Representative Publications and Presentations

#### Publications (five most recent)

- Biddy, Q. L., & Laubach, T. A. (2015). Understanding the nature of science through integrating the history of science. In M. J. Mohr-Schroeder, & S. S. Harkness (Eds.), *Proceedings of the 114<sup>th</sup> Annual Convention of the School Science and Mathematics Association (Vol. 2)*. Oklahoma City, OK: SSMA.
- Street, G. M., & Laubach, T. A. (2013). And so it grows: Using a computer-based simulation of a population growth model to integrate biology and mathematics. *The American Biology Teacher*, 75(4), 274-279.
- Laubach, T. A., Crofford, G. D., & Marek, E. A. (2012). Exploring Native American students' perceptions of scientists. *International Journal of Science Education*, 34(11-12), 1769-1794.
- Laubach, T. A., Elizondo, L. A., McCann, P., & Gilani S. (2010). Quantum dotting the "i" of inquiry: A guided inquiry approach to teaching nanotechnology. *The Physics Teacher*, 48(3), 186-188.
- Marek, E. A., & Laubach, T. A. (2007). Bridging the gap between theory and practice: A success story from science education. In M. Gordon, & T. V. O'Brien (Eds.), *Bridging theory and practice in teacher education* (pp. 47-60). Rotterdam, The Netherlands: Sense.

#### Presentations (five most recent)

- Biddy, Q., & Laubach, T. A. (2018, March). Understanding Pedagogical Content Knowledge in a Three-Dimensional Learning Context. Paper submitted to the annual international conference of the National Association for Research in Science Teaching (NARST), Atlanta, GA.
- Laubach, T. A., & Leggate A. (2018, March). *Accessing secondary data sets using primary devices*. Paper submitted to the annual meeting of the National Science Teachers Association (NSTA), Atlanta, GA.
- Laubach, T. A., Leggate A., Trail, C. (2018, March). *Partnering with state level agencies to broaden the impact in STEM*. Paper submitted to the annual meeting of the National Science Teachers Association (NSTA), Atlanta, GA.
- Laubach, T. A. (2016, October). *Development of an instrument measuring pre-service teachers' self-efficacy for educational robotics integration*. Paper presented at the annual meeting of the School Science Mathematics Association (SSMA), Phoenix, AZ.



- Miller-DeBoer, C. M., & Laubach, T. A. (2016, January). *Secondary science teacher science writing instruction efficacy beliefs*. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Reno, NV.

### **Representative Honors and Awards Received**

- Apple Distinguished Educator, 2017-present
- Junior Faculty Award, Jeannine Rainbolt College of Education, University of Oklahoma, 2013-2014
- Academic Keys Who's Who in Curriculum & Education, University of Oklahoma, 2011-2012
- Young Scholar Award, Jeannine Rainbolt College of Education, University of Oklahoma, 2005-2006
- Outstanding Thesis National Finalist, National Association for Research in Science Teaching, 1999

### **Major Professional Affiliations**

- American Association of Physics Teachers (AAPT)
- American Educational Research Association (AERA)
- Association for Science Teacher Education (ASTE)
- Association for Supervision and Curriculum Development (ASCD)
- National Association of Biology Teachers (NABT)
- National Association for Research in Science Teaching (NARST)
- National Science Teachers Association (NSTA)
- Oklahoma Science Teachers Association (OSTA)
- School Science Mathematics Association (SSMA)
- Southwest Association for Science Teacher Education (SW-ASTE)