RUTGERS
Graduate School of Education

Learning and Teaching
Graduate School of Education
Rutgers, The State University of New Jersey
10 Seminary Place
New Brunswick, NJ 08901-1183

http://gse.rutgers.edu/

Ph: 732-848-0789

Demonstrations and Technology in Science Teaching
05:300:462:01
Spring 2021
3 Credits

Instructor: Matthew Blackman	Email address: matthewblackman1@gmail.com
Phone number: 973-943-9016	Location: Virtual Wednesdays 4:50 – 7:30 PM
Office Hours: By appointment	Prerequisites or other limitations: N/A
Mode of Instruction:[1] ___ Lecture ___ Seminar ___ Hybrid _X_ Online ___ Other	Permission required: _X_ No __ Yes

Learning goals[2]
Inservice and preservice physics teachers will use a variety of technologies to increase innovation, efficiency, and collaboration in their instruction. Your lessons will have more engaging and creative physics content, your assessments will be more valuable, and you will be able to build helpful connections with colleagues, students and communities.

Course catalog description:
Coursework consists of hands-on activities in which you will practice the skills required to be an adept adopter of new technologies. Each class session will focus on a different application of technology in science education.

Grading policy:
Each assignment will earn full credit when complete. Deliverables may be revisited and improved with instructor input until the activity is deemed complete. Assignments submitted late will be eligible for a maximum of 80% credit when complete.

Attendance:
Attendance is expected at every session. In the event of inclement weather, please check your email. If you miss one class, you can submit the work from that week, on time, for full credit. Work from additional missed weeks will be eligible for maximum 80% credit.

[1] Check 1:
[2] These can be TEAC claims or objectives from other sources.

RUTGERS

Required Materials:
Access to a computer with internet access is required to complete homework assignments. The various libraries and computer labs throughout the Rutgers campus are more than sufficient for the purposes of the course. If you have a personal laptop computer, please bring it to class meetings as often as possible.

Assignments[3]:
The assignments in the schedule below will enable you to continue to build upon the skills you have developed in the course, as well as customize them to fit your particular style. Each assignment will serve as a helpful resource for you to use in your classroom. By the end of the course, you will have several weeks worth of lessons to use with your students!

Academic integrity:
Make sure that you provide proper citations for all materials that you use in all written work. Any violation of academic honesty is a serious offense and is therefore subject to an appropriate penalty. Refer to http://academicintegrity.rutgers.edu/integrity.shtml for a full explanation of policies.

Website: www.universeandmore.com

Course Schedule:

Date	Tech Focus	Physics Focus	Assignment due
1/20	Sensor Data I	Gas Laws and Thermodynamics	
1/27	Simulations I	Gas Laws and Thermodynamics	
2/3	Sensor Data II	Magnetism and Electromagnetism	
2/10	Simulations II	Magnetism and Electromagnetism	Sensor Data Lesson
2/17	Games	Various topics	
2/24	DIY Experiments	Wave Optics	
3/3	Web Resources	Atomic Physics	Simulation Lesson
3/10	Whiteboards and Low-tech	Atomic Physics	
3/24	Video Analysis	Newtonian Mechanics	Video Analysis Lesson
3/31	Physics Sandboxes	Newtonian Mechanics	
4/7	Mobile Devices	Newtonian Mechanics	Final Project Deadline 1
4/14	Final lessons	Various topics	Final Project Deadline 2
4/21	Final lessons	Various topics	
4/28	Final lessons	Various topics	

[3] Including exams, papers etc.