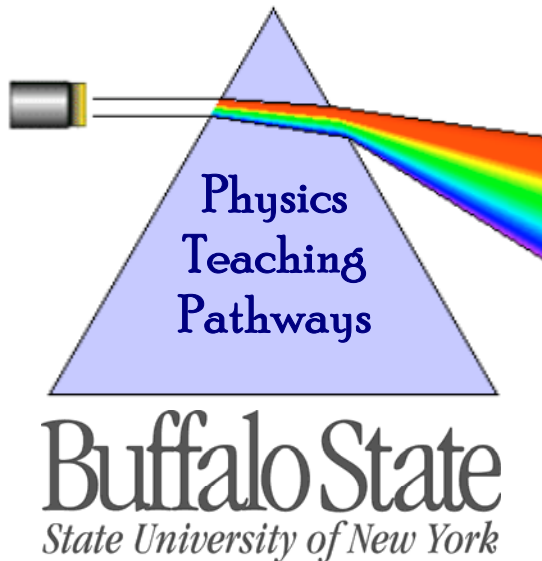


# SUMMER PHYSICS TEACHER ACADEMY

SUMMER 2010



## BECOME A HIGHLY QUALIFIED PHYSICS TEACHER

These courses are designed for new and experienced physics teachers

## WHAT PAST PARTICIPANTS SAY ABOUT THE WORKSHOPS

*"This is the most valuable thing that I've ever done for my students, myself, and my profession."*

*"I would go to anything that these instructors presented. They are the best mentors I have ever worked with. I really believe no one should be certified without attending this workshop."*

*"My physics students in the upcoming school year thank you all!!"*

*"ALL aspects of this program were outstanding."*

*"The laboratory activities were excellent."*

*"This was the most useful seminar I have ever attended."*

*"The instructors gave and gave and gave - great material, advice, guidance, and more. They are truly professionals!"*

## PHYSICS TEACHING PATHWAYS 2010 SUMMER ACADEMY

Each summer, approximately 90 science teachers attend the unique Summer Physics Academy at Buffalo State. This program is ideal for those who teach full time during the school year. Participants earn 6 credit hours per course by taking these workshop classes during the summer.

Three courses are offered during the summer. The work is intensive but rewarding, and instructors are available during and after class to assist with assignments and projects. College faculty members and experienced master physics teachers teach all courses.

Three summer 2010 courses offered:

PHY 510: New Physics Teacher Workshop, July 11-23, 2010

PHY 620: Powerful Ideas & Quantitative Modeling in Mechanics, July 26 – Aug14, 2010

PHY 622: Powerful Ideas & Quantitative Modeling in Electricity and Magnetism, July 26 – Aug14, 2010

## CONTACT INFORMATION

<http://www.buffalostate.edu/physics/x711.xml>  
Dr. Dan MacIsaac: [macisadl@buffalostate.edu](mailto:macisadl@buffalostate.edu)  
Dr. David Henry: [henryd@buffalostate.edu](mailto:henryd@buffalostate.edu)

## PHY 510: NEW PHYSICS TEACHER WORKSHOP

PHY 510 is a 6-credit workshop course designed for new physics teacher and teachers working toward physics certification. Using the philosophy of “teachers teaching teachers,” a team of five master high school physics teachers and college faculty lead this workshop for teachers throughout the state. During the workshop participants will:

- ❖ Assess and develop their understanding of fundamental physics concepts
- ❖ Become familiar with effective classroom activities and strategies that lead to successful physics teaching with the Physical science: Physics Core Curriculum.
- ❖ Experience laboratory activities designed to help all physics students develop successful problem-solving skills.
- ❖ Experience classroom instruction that effectively integrates group activities that build on prior knowledge.
- ❖ Examine assessment instruments designed to help physics students prepare for the Regents Physics Exam.
- ❖ Experience computer-enhanced instructional practices for developing science concepts elusive to other teaching strategies.
- ❖ Practice implementing research-based instructional strategies.

### PHY 510 Instructors:

David Henry, Buffalo State College

Walter Pawlowski (retired), North  
Tonawanda High School

Lowell Sylwester (retired), West Seneca  
West High School

Laura Dustin, Honeoye High School

## PHY 620: POWERFUL IDEAS & QUANTITATIVE MODELING IN MECHANICS

PHY 620 is a 6-credit workshop course taught by Dr. Luanna Gomez and colleagues. This course is designed for MS/HS physics teachers interested in teaching force, motion and energy using a modeling curriculum. Teachers in this course will work through the renowned Modeling Physics curriculum as modified to meet NYS Core Curriculum needs as both students and teachers, learning modeling pedagogy and the use of modeling methods such as whiteboarding, system schema and energy pie charts and more. Taught using proven reformed teaching methods.

## PHY 622: POWERFUL IDEAS & QUANTITATIVE MODELING IN ELECTRICITY AND MAGNETISM

PHY 622 is a 6-credit workshop course taught by Dr. Dan MacIsaac and colleagues. This course is designed for MS/HS physics teachers interested in teaching electricity and magnetism using a modeling curriculum. Teachers in this course will work through the renowned Modeling Physics curriculum as modified to meet NYS Core Curriculum needs as both students and teachers, learning modeling pedagogy and the use of modeling methods such as whiteboarding, system schema and energy pie charts and more. Taught using proven reformed teaching methods.

## WORKSHOP LEADERS

All courses are led by Physics Education college faculty and master high school physics teachers.

## THE COURSE SCHEDULES

Each course runs Monday through Friday for two or three weeks, from 8:00 a.m. to 5:00 p.m. and some evenings with open facilities available in the evenings.

## ACCOMMODATIONS

For those outside the Buffalo area, you may choose to live on or near campus, apartment-style housing is available on campus (cost is approximately \$200 per week), and several hotels are nearby.

## COST

All workshop courses are 6-credit graduate courses. In-state tuition and fees for these 6-credits are \$2,111. This includes workshop materials, “make and take” activities, CD ROM with all activities and written materials. For non-Buffalo State College students, there is a \$50 application fee. This professional development activity qualifies for funding with district Title II, NCLB funds. Teachers should check with the person responsible for the district NCLB funds for possible support. This workshop course fulfills the equivalent of 100 professional development, instructional contact hours. Scholarship information is available at:

<http://www.buffalostate.edu/physics/x711.xml>