Table

Description automatically generated with medium confidence**PHY622: Learn how to teach E&M better at Buffalo State this summer.**

*Would you like to improve your understanding of Electricity and Magnetism and improve your students’ learning? Are you confident teaching the related yet distinct ideas of electric field, electric forces, electric potential, electric potential energy, EMF, voltage, capacitance, inductance, magnetic fields, magnetic forces and current to your students? Would you like to develop greater conceptual comfort with robust atomic level models more appropriate for HS and college introductory E&M learners than Ohm’s Law and water flowing through pipes?\**

**PHY 622: Electricity and Magnetism for HS Teachers. A 6cr graduate credit physics course designed for learners seeking NYSED physics teacher certification. CRN 1529, Session VS.**

The class will run 15 days July 7-25 8AM-5PM with live face to face student discourse-intensive classes with extensive hands-on activities on campus, followed by 10 days July 28-Aug 8 of online synchronous and non-synchronous activities. Approximately $500/cr for 6cr (SUNY in-state graduate tuition). PHY622 is instructed by a team of Buffalo State physics department faculty, NYS Master Teacher Fellows, and American Modeling Teacher Association (AMTA) Master Teachers. Registration is currently open, see <https://suny.buffalostate.edu/summer> for application, registration and fees information.

We will review all topics present in a standard calculus-based E&M lower division course, complete an ASU Modeling Physics E&M workshop, complete graduate level readings and discourse in teaching and learning E&M, a video project and a content exam. Variants of this course have been offered at Buffalo State since 2002, though this course was recently reformatted and extended to satisfy revised NYSED and SUNY requirements.

Campus housing is available if desired at $60/day, and several LEAs have in the past provided Title II funds for up to the full cost of attendance at this course, including tuition, books, travel, room and board – check with your principal. For additional queries regarding PHY622, please contact the instructor of record, Professor Dan MacIsaac at [macisadl@buffalostate.edu](mailto:macisadl@buffalostate.edu) .

*\*Sample reading: Saeli, S. & MacIsaac, D.L. (2007). Using gravitational analogies to introduce elementary electrical field theory concepts. The Physics Teacher, 45(2), 104-108. Available from Scitation.org or by googling.*