

The *M.S.Ed.-Physics* degree programs at SUNY- Buffalo State College
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	M.S.Ed.-Physics (NY Alt Cert via Trans B) Cert for Science/Tech/Engg professionals	M.S.Ed.-Physics (usually 2nd NY Cert) STEM teacher certifies to physics	
Program admission requirements	Physics or related bachelor's degree 3.0 GPA 18 cr of non-physics science language req NYS Tchr Cert Ex (LAST & Physics CST) 3 written references & interview	NYS certification in a secondary science 2.5 GPA n/a n/a n/a 3 written references & interview	
Coursework	all courses 3cr unless indicated		E =evening course O = online course S = summer academy
Seminar (3cr)			
PHY500: Physics Education Research Seminar	3cr	3cr	O (Spr)
Physics Teaching Methods (6cr)			
PHY510: Process Skills in Physics Teaching (6 cr) w/ 40h early field experience grades 7-12	6cr Y	6cr NR	S (all) by arrangement
Physics Content w/Model Pedagogy (12cr)			
PHY620: Powerful Ideas & Quantitative Modeling: Force, Motion and Energy (6cr)	6cr	6cr	S (even years)
PHY622: Powerful Ideas & Quantitative Modeling: Electricity and Magnetism (6cr)	6cr	6cr	S (odd years)
Project (3cr)			
PHY690: Research Project	3cr	3cr	O (Fall)
Electives (6/9cr)			
PHY518: Wave Phenomena and Optics	6cr	9cr	E (Fall / Spr rotation)
PHY520: Modern Physics			E (Fall / Spr rotation)
PHY525: Nuclear and Particle Physics			E (Fall / Spr rotation)
PHY616: Advanced Dynamics			E (Fall / Spr rotation)
PHY618: Advanced Electricity and Magnetism I			E (Fall / Spr rotation)
SCI527: Current Topics in Science			E (Fall / Spr rotation)
SCI632: Curricular Trends in Science Teaching in the Secondary School			E (Fall / Spr rotation)
SCI664: Teaching Science with Media			E (Fall / Spr rotation)
SCI685: Evaluation in Science Education			E (Fall / Spr rotation)
Or other courses by advisement			
NYSED Teacher Cert Requirements (15cr)			
EXE500 or EXE600: Exceptional Education	3cr	NR	E (all semesters)
EDF503 or EDF529: Educ/Adolescent Psychology	3cr	NR	E (rotation)
EDU417: Adolescent Literacy	3cr	NR	E (rotation)
plus one of			
EDU416: Teaching Literacy in Middle and Secondary Schools	3cr	NR	E (all)
EDU609: Improving Reading in the Content Areas			E (rotation)
PHY502: NYSED 52.21(b)(3)(xvii)-regulated college mentored physics teaching experience paid employment for one year under NYSED Transitional B Certification	3cr	NR	by arrangement
Total number of required credits:	45cr	33cr	