



College Credit Plus – Preparation of Physics Instructors

The Department of Physics at Ohio State has created a tailor-made supportive program designed to prepare teachers to teach introductory college physics in much less time, and at much less cost, than a traditional master’s degree program. This program consists of four graduate courses, totaling 18 graduate credit hours, that will qualify teachers to teach college credit plus physics in their own schools. The program combines an active learning inquiry-based pedagogical approach, to allow teachers of all backgrounds succeed, with close coordination with multiple introductory undergraduate courses offered at Ohio State, to give teachers an authentic experience involving the courses they will replicate in their own classrooms. Teachers will leave with a course ready to teach upon completion of the program.

Program Overview:

- One course in each of four consecutive terms (summer-fall-spring-summer).
- 18 graduate non-degree credits with College Credit Plus Certification.
- Supportive environment with time spent preparing teachers for rigorous physics/math content.
- Introduction to physics content through inquiry teaching to model active learning methods integral to Ohio learning standards.
- Teachers embedded in Ohio State physics classes to experience the courses they are meant to replicate.
- Online access to lecture videos and homework assignments allow for an increased flexibility in scheduling to accommodate working professionals.

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| Summer 2019 | Physics 5100: Introduction to Conceptual Physics (4 credit hours) | Two three-week sessions: June 10-28 and July 22–August 9 (TWR 9 a.m. to 12:20 p.m.) | <ul style="list-style-type: none"> • Key physics and math concepts are covered with hands-on inquiry activities. • Exposure to standard physics coursework through homework and video lectures. • Designed to help teachers of all backgrounds succeed in fall/spring content courses. |
| Autumn 2019 | Physics 5100: Mechanics, Thermal Physics, Waves (5 credit hours) | Evening scheduling for working professionals | <ul style="list-style-type: none"> • Teachers receive extra support during lab sessions. • Where appropriate, versions of the labs reflect what teachers can use in their classrooms. |
| Spring 2020 | Physics 5100: Electricity & Magnetism, Optics, Modern Physics (5 credit hours) | Evening scheduling for working professionals | <ul style="list-style-type: none"> • Teachers receive extra support during lab sessions. • Where appropriate, versions of the labs reflect what teachers can use in their classrooms. • Modern physics includes quantum mechanics and special relativity. |
| Summer 2020 | Physics 5100: Introductory Physics Applications (4 credit hours) | <ul style="list-style-type: none"> • Teachers spend the final summer preparing their course with support from Ohio State staff. • Course syllabi are constructed to match college content. • Labs are constructed from tested labs used in Ohio State introductory courses. • Content is reviewed to ensure teachers leave prepared to teach. | |

Contact Dr. Andrew Dougherty (dougherty.63@osu.edu) with questions.