

Syllabus Term: Spring 2023

**PHYC 122: General Physics 2**

Indiana Academy for Science, Mathematics, and Humanities

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| **BSU Credits** | 5 credit hours | **College of Science and Humanities** | Department of Physics and Astronomy |
| **Instructor** | Godfrey Walwema | **Office Location** | EH B007 |
| **Email** | Godfrey.walwema@bsu.edu | **Office Hours** | MWF: 1-3PM.  TR: 2-4 PM or by appointment |
| **Meeting Times** | MWF:11-11:50, Labs R:8-10:50 | **Meeting Location** | BU205 |
| **Prerequisite(s)** | PHYC 120 | | |
| **Course Description** | Continuation of PHYC 120. Topics include heat and laws of thermodynamics, Coulomb's law and the electric field, Ampere's law and the magnetic field, introduction to Maxwell's equation, DC and AC circuits; the nature, propagation, and properties of light; and lens systems. An optional introduction to selected topics in modern physics may be included. | | |
| **Core Transfer Library Course** | Physics 1 & 2 (Two course sequence), Calculus-Based | | |
| **Textbook and/or Course Materials** | Rice University Open Stax University Physics; Serway/Vuille College Physics 8th Ed; Princeton Review Physics Guide | | |
| **Course Learning Outcomes** | Students should be able to adequately express their understanding in Physics both in a conceptual multiple-choice format, and in a rigorous mathematical free-response format. | | |
| **Important Deadlines** | Dropping/Withdrawing from a class at your high school does not drop/withdraw you from your BSU Dual Credit class. Instructions for dropping/withdrawing can be found in the Dual Credit Student and Parent Handbook. | | |

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| **How BSU Grade will be Calculated** | PHYC 122  Exams (Units and Finals)...........60% of course grade  Laboratory Work…………………….25% of course grade  Homework ….15% of course grade | |
| **How High School Grade will be Calculated** | Same as above | |
| **BSU Grading Scale** | 85% and above | A |
| 75-84 | B |
| 65-74 | C |
| 55-64 | D |
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| **High School Grading Scale** |  | |
| 85% and above | A |
| 75-84 | B |
| 65-74 | C |
| 55-64 | D\* (retake course) |
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| **Schedule of Assignments** | TENTATIVE SCHEDULE AS FOLLOWS  Week 1: Charges and Fields (Labs and HW)  Week 2: E-fields, Forces, Gauss’ law (Labs and HW)  Week 3: E-potential and energy (Labs and HW)  Week 4: Testing and Intro to Circuits (Series/Parallel)  Week 5: Ohm’s and Kirchhoff’s Laws, Applied DC Circuits (Labs and HW)  Week 6: Testing and Intro to Magnetism (Solid State magnets and B-fields due to currents/charges) Right Hand Rule 1  Week 7:  Ampere’s Law and Right Hand Rule 2 (Labs and HW)  Week 8: Lenz’ and Faraday’s Law; AC Circuits (HW)  Week 9:  Magnetic Field Applications  Week 10:  Testing and Intro to Optics (Spectra)  Week 11: Reflection (Labs and HW)  Week 12: Refraction (Surface and Lenses) (Labs and HW)  Week 13: Diffraction (Labs and HW)  Week 14: Testing and Intro to Thermo (expansion and gas laws)  Week 15: Kinetic Theory and Laws of Thermo (HW)  Week 16: PV-diagrams and Efficiency  Week 17: Testing and Modern Physics if time allows!  Week 18 Testing | |
| **Classroom Policies & Information** | 1. Laptops can be used for classwork such as taking notes and reading class notes. For an undesired use of a laptop, you will be assigned an unexcused absence. | |
| **Attendance Policy** | Students arriving after the start of class may receive a Tardy.  Students arriving after 20 minutes (or not at all!) may receive an Absence.  Student is responsible for all information missed due to not being present. | |
| **Late Work Policy** | Late work may be turned in at any time, but will receive a D\* in the gradebook regardless of delay. | |
| **Make-up/Re-take Exam Policy** | Make-up exams may only be taken if the student received an excused absence for the missed test. | |
| **Dual Credit-High School Credit Policy Statement** | Students may choose to enroll in Ball State’s Dual Credit Program to earn college credit for PHYC 122, General Physics 2, from Ball State at a reduced rate of tuition ($250 flat fee). Students who are eligible for free or reduced lunch this academic year may enroll at no charge if verified by the school.  To enroll in Ball State’s Dual Credit Program, students should have a 3.0 GPA on a 4.0 scale and complete the application & registration process before the given deadline. Ball State will bill students via postal mail; no money should be submitted to the high school. College credit can only be earned during the semester (or, in the case of year-long classes, during the academic year) in which the student is enrolled. Late enrollments are not permitted.  Whether college credit earned through dual credit courses will be accepted by another institution of higher education is determined by the college or university to which a student is seeking admission. Before enrolling through Ball State’s Dual Credit Program, students should check directly with that institution to determine if a course will be accepted and how it will be counted toward graduation requirements. *Refunds will not be issued if Ball State credits are not able to be transferred.* In most cases, students will need to earn a C or better to transfer credit from Ball State to another institution. Grades of D or lower earned in Ball State Dual Credit courses are recorded on a student’s Ball State transcript but may not be able to transfer.  The rigor of this course will be periodically reviewed by Ball State University faculty in an effort to maintain the high quality of education that each student receives. To learn more about Ball State’s Dual Credit Program, visit bsu.edu/dualcredit, call 765-285-1581 or email [dualcredit@bsu.edu](mailto:dualcredit@bsu.edu). | |
| **BSU Student Rights and Responsibilities** | While enrolled in Ball State’s Dual Credit Program, you are expected to abide by the academic rules of behavior befitting a university student. You should read the ***Dual Credit Student and Parent Handbook***, located at [bsu.edu/dualcredit](https://ballstate-my.sharepoint.com/personal/alhurt_bsu_edu/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Falhurt%5Fbsu%5Fedu%2FDocuments%2FDual%20Credit%2FHandbook%2FStudent%2DParent%20Handbook%2FDual%20Credit%20Program%20Student%2DParent%20Handbook%2Epdf&parent=%2Fpersonal%2Falhurt%5Fbsu%5Fedu%2FDocuments%2FDual%20Credit%2FHandbook%2FStudent%2DParent%20Handbook). In particular, review the Code of Student Rights and Responsibilities, focusing on the policies regarding student rights and responsibilities, behavior, academic integrity, and related procedures.  The ***Dual Credit Student and Parent Handbook*** includes information regarding student qualifications, prerequisites, available courses, responsibilities, financial aid stipulations, transferability, withdrawal, refund and billing policies and more. It is important that you review the information contained in it. | |
| **Student Academic Ethics Policy** | Actions which include but are not limited to cheating, plagiarism, falsely claiming to have completed work, cooperating with another person in academic dishonesty, knowingly destroying or altering another student's work, or attempting to commit an act of academic dishonesty that violates the Student Academic Ethics Policy (http://www.bsu.edu/associateprovost/academicethics).  The consequences of academic dishonesty are determined on a case-by-case basis by each instructor and may include but are not limited to one or more of the following academic sanctions: informal meeting, removal from dual credit course, dismissal from the university, or other appropriate consequence. | |
| **Policy on the Americans with Disabilities Act (ADA)** | If you need course adaptations or accommodations because of a disability, please contact the ***Office of Disability Services***. The ***Office of Disability Services*** coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability services can be contacted at 765-285-5293 or [dsd@bsu.edu](mailto:dsd@bsu.edu). | |
| **Title IX – Sexual Misconduct** | Ball State University is committed to establishing and maintaining an effective, safe, and nondiscriminatory educational environment in which all individuals are treated with respect and dignity. For information about Ball State University’s Interim Title IX Policy and Procedures, please visit our website. Please note that the University’s policy and procedures have undergone significant revisions starting with the 2020-21 school year and ongoing.  Consistent with the University’s Notice of Nondiscrimination and in accordance with the U.S. Department of Education’s implementing regulations for Title IX of the Education Amendments of 1972 (“Title IX”), Ball State University prohibits sexual harassment that occurs within its education programs and activities. This prohibition extends to all applicants for admission or employment and to all students (any status) and all employees (any status). An individual who is found to have committed sexual harassment in violation of this policy is subject to the full range of University discipline, up to and including termination of employment or expulsion. The University will provide persons who have experienced sexual harassment with ongoing remedies as reasonably necessary to restore or preserve access to the University’s education program and activities.  Inquiries concerning the specific application of Title IX at Ball State should be directed to Ms. Katie Slabaugh, Associate Dean of Students/Title IX Coordinator in the Frank A. Bracken Administration Building, room 238, 765-285-1545, kslabaugh@bsu.edu. Persons can also contact the U.S. Department of Education Office for Civil Rights, Washington, D.C. 20202-1328, 1-800-421-3481, ocr@ed.gov. | |
| **Diversity Statement** | Ball State University aspires to be a university that attracts and retains a diverse faculty, staff, and student body. We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse as expressed in our [**Beneficence Pledge**](https://www.bsu.edu/about/administrativeoffices/student-conduct/policiesandprocedures/beneficence) and through university resources found at [**http://cms.bsu.edu/campuslife/multiculturalcenter**](http://cms.bsu.edu/campuslife/multiculturalcenter). | |
| **The Learning Center** | The Learning Center offers free Tutoring and Academic Coaching for many courses at Ball State.  Students can make appointments for online (Zoom) or in-person (NQ 350) appointments. Unvaccinated students are required to wear masks and practice physical distancing in the Learning Center.  To make an appointment, visit my.bsu.edu and click on “TutorTrac” in the Additional Tools section, or just go directly to [**https://ballstate.go-redrock.com**](https://ballstate.go-redrock.com/).  Testing accommodations for students with disabilities are available for students who have received the appropriate documentation from Disability Services.  Tests may be administered in the Learning Center.  Supplemental Instruction is available in select courses.  If you have an SI leader for your course, that person will provide students with information the first week of school regarding weekly study sessions.  For more information about all of our programming, visit [**bsu.edu/learningcenter**](https://www.bsu.edu/academics/collegesanddepartments/universitycollege/learningcenter) or call 765-285-1006. | |
| **The Writing Center** | All writers improve with practice and feedback, so as a student in this course, you are encouraged to use the Writing Center (in Robert Bell 295, Bracken Library, or online) to get additional feedback on your writing. To schedule a free appointment to discuss your writing, go to [**www.bsu.edu/writingcenter**](http://www.bsu.edu/writingcenter). Online and in-person appointments are available seven days a week; however, plan ahead because appointments book quickly! | |
| **Syllabus Change Policy** | This syllabus is a guide to the course and may be subject to change with reasonable advanced notice as course needs arise. | |