

Mayville State University

PHYS 212: College Physics II – On-campus Lecture Course

Spring 2025
3 Credit Hour

Course and Instructor Information

Instructor: Dr. Thomas Gonnella - please address me as “Dr. Gonnella”

Contact Information: Office Phone and Location: (701) 788-4807 – Science Building 124

Email:tom.gonnella@mayvillestate.edu

Hours of Availability: Anytime outside of my posted class times. ← Preferred method of contact

Instruction Mode: Face-to-face

Meeting Times and Location: Mon. & Wed. 2:00-3:15 PM in Science Building 130

Zoom Link: To be established if it becomes necessary.

Course Schedule: The course schedule is located at the end of this document. It is your responsibility to program reminders for yourself regarding these important deadlines.

Course Materials and Technologies

Required Materials

Hardware: This on-campus lecture course requires a computer that meets the [MSU technology requirements](#) with a webcam, a microphone, and a reliable internet connection needed for YuJa Varsity recording.

Achieve Access: Graded homework assignments and exams are only available through a separate course shell contained within the Achieve website. Course access codes are available through the MSU bookstore or directly from [Macmillan Learning](#). The course ID this semester is “kjrzmc” and the direct link to the Achieve course shell is [here](#).

Recommended (not Required) Textbook: Physics, Walker, Prentice-Hall, 5th Ed. (2017) or 4th Ed. (2009) Also the open educational textbook College Physics or the University Physics three-volume set of textbooks by [OpenStax](#) can be utilized.

Course Description

An algebra-based physics course designed to provide a general, conceptual understanding of the principles of physics related to thermodynamics, waves, sound, electricity, magnetism, light, optics, and an introduction to modern physics.

Pre-/Co-requisites: Students are expected to have successfully completed College Physics I (PHYS 211), College Algebra (Math 103), and Trigonometry (MATH 105) prior to enrolling in this course. If these topics are/were challenging to the student then they should utilize a tutor outside of this class as needed. [NetTutor](#), an online tutoring service, is also available to you for tutoring. Students should be co-enrolled in PHYS 212L.

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Course Objectives

To successfully complete this course, the learner will be expected to meet the following objectives, as aligned to Composite Science Education Program Approval Standards through North Dakota's Education Standards and Practices Board ([ND ESPB](#)):

Students will analyze word problems to accurately determine solutions to the physics problems posed. The topics covered are provided in the course schedule.

Standards Alignment (Composite Science Education Program Approval Standards-ND ESPB):

- 13047.1 Composite Science Major/General Science The composite/general science program requires that environmental science be incorporated within other courses or as a separate course. The composite/general science program requires:1. Coursework in biology, chemistry, physics, and earth science, including: a. Minimum of twenty four semester hours in one area, b. Minimum of twelve semester hours in two other areas, c. Minimum of four semester hours in the fourth area, d. Courses must be from those that the institution allows toward graduation in the science major. 2. Study of mathematics through the pre-calculus level (college algebra and above) and statistics

Course Expectations

Homework: Timely completion of the graded homework assignments in the Achieve course shell is strongly encouraged but are not required. The course schedule indicates the dates that all homework assignments will be posted by and when the assignments are due. Students are encouraged to work ahead of pending deadlines because no graded homework extensions will be granted. The percentage from the graded homework leading up to an exam can be averaged with the resulting percentage on the corresponding exam. If the percentage from the graded homework is less than the percentage on the exam, then the homework percentage is dropped and the percentage on the corresponding exam becomes the score used for grade determination. Practice homework with lectured answers provided in Blackboard and warm-up questions in Achieve are intended for students to have the opportunity to have more problems to practice and is not graded or evaluated in any way.

In the recorded lectures and practice homework the importance of significant figures is emphasized all the way through this course. Most of the questions in Achieve are more concerned about accuracy than proper precision. If you are doing a problem in Achieve where the software is looking for a value to be entered and you do the problem and get an answer like 1.36478 meters, enter this 1.36478 m not the answer to the correct number of significant figures (1.3 m) because this properly rounded off value may fall outside the 2% tolerance cut off imposed by the software.

Exams: The timeline for the four on-campus section exams and the on-campus final exam are clearly indicated on the course schedule. The exams are taken in Achieve and are of similar format to the homework assignments in that feedback on incorrect response will be provided but guidance towards the correct solution will not be provided. If it is necessary to miss a scheduled exam with an instructor-approved excused absence (team or club leaving town), arrangements for a make-up session needs to be made with the instructor prior to the scheduled exam.

All exams will be taken using non-programmable calculator approved by the instructor. You will need to record yourself taking the exams using YuJa Varsity. Using a webcam and microphone, this software will record you

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taking the exam while capturing all on-screen computer activity. If the exam is completed without the corresponding YuJa Varsity recording, a score of zero will be given regardless of what score is posted in Achieve. The use of an equation sheet will be explained before each exam. It is your responsibility to check and maintain the ability to capture YuJa Varsity recordings through performing practice recordings.

Instructor/Student Communication: My preferred method of contact is face-to-face but e-mail can be used as a second option. Although it is typically sooner, you should expect a response to your e-mails within 48 hours. Despite my e-mail responses will typically go whichever account you initially sent the e-mail from, you are still accountable for all academic communications sent to your Mayville State University e-mail address.

Blackboard Announcements: Course updates and reminders are typically posted as announcements in Blackboard. You are expected to have the notification of announcements turned on in your Blackboard account. If you are not receiving announcements in a timely manner, please contact Robert Davis, the MSU Blackboard Administrator, at robert.davis.4@mayvillestate.edu to get this issue resolved.

Study Groups: Students are encouraged to discuss difficult concepts, warm-up problems, and homework problems with their classmates, however, in responding to others, you should try to help steer fellow students in the correct direction without providing a direct solution to the problem.

Evaluation and Grading

Grading Policy: It is my responsibility to provide a grading spreadsheet in the Blackboard course shell and ensure that exam and homework scores are posted in a timely manner within the Achieve course shell. It is your responsibility to take their scores from the Achieve course shell and enter them into grading spreadsheet provided in order to determine their level of performance in this course.

Grading Scale: A > 90% B > 80% C > 70% D > 60%

Breakdown of Grades: Grades in this course are determined by the performance on four optional graded homework assignments, four required section exams, and one final exam.

1st Hour Exam (02/03) + 1st Graded Homework Set	30%
2nd Hour Exam (03/03) + 2nd Graded Homework Set	30%
3rd Hour Exam (04/07) + 3rd Graded Homework Set	30%
<u>4th Hour Exam (05/05) + 4th Graded Homework Set</u>	<u>30%</u>
Best 3 Scores	90%
Final Exam (05/14 at 2 PM)	10%

Grading scale: A > 90% B > 80% C > 70% D > 60%

Academic Accommodation: As shown in the grade breakdown provided above, you will only be graded on three out of four of the exam-homework sets. If life gets in the way of this course and a low score results, this will be the score that is dropped. If life doesn't get in the way, your lowest score will still be dropped.

Academic Dishonesty: Academic dishonesty on any graded material will be dealt with severely.

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Enrollment Verification

The U.S. Department of Education requires instructors of online courses to provide an activity which will validate student enrollment in this course. The only way to verify that a student has been in this course is if he, she, or they perform an action in the LMS, such as completing an assignment or taking a quiz. Logging into the LMS is **NOT** considered active course participation. For this course students need to simply show up to class the first week. If you do not show up for class, your enrollment in this course will be at risk.

Late Arrivals

If you are adding this course late, make sure to check the Announcements section in the Blackboard course shell for all of the announcements that you may have missed prior to your admission into the Blackboard course shell. Your deadlines in this course will remain the same as the deadlines for students that were enrolled on or before the first day of class.

Proctor Notification

There is no proctoring needed for this class.

Important Student Information

In the Announcements section of the Blackboard Institution Page, you can view and download the Important Student Information document for the current academic year. It includes information about:

- ✓ Land Acknowledgement Statement
- ✓ Academic Grievance Concerns and Instructor English Proficiency
- ✓ NetTutor - Online Tutoring Program
- ✓ Starfish - Student Success System
- ✓ Students with Documented Disabilities
- ✓ Student Learning Outcomes / Essential Learning Outcomes
- ✓ Academic Honesty
- ✓ Emergency Notification
- ✓ Continuity of Academic Instruction for a Pandemic or Emergency
- ✓ Family Educational Rights and Privacy Act of 1974 (FERPA)
- ✓ Diversity Statement (Title IX)

Syllabus Appendix: Other Required Syllabus Items

INTASC Standards: In the section below the term “teacher” pertains to the student taking this course that is on-course to become a student teacher.

#	INTASC Standards
1	The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he/she teaches.
6	The teacher uses knowledge of effective verbal and nonverbal communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.

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Course Schedule for College Physics II – On-campus

01/13 - The follow lectures, notes, and practice homework become available

- Introduction to thermodynamics
- Phase changes, SCFs
- Heat transfer
- Heat engine, pump, refrigeration/AC
- Review for Exam 1

01/29 - **Graded Homework 1** is due before 11 PM

02/03 - **Exam 1** will be taken in class with a YuJa Verity recording

02/03 - The follow lectures, notes, and practice homework become available

- Gases
- Simple harmonic motion
- Waves and sound
- Standing waves
- Interference
- Review for Exam 2

02/26 - **Graded Homework 2** is due before 11PM

03/03 - **Exam 2** will be taken in class with a YuJa Verity recording

03/03 - The follow lectures, notes, and practice homework become available

- Electric charge
- Electric potential
- Electric circuits
- Capacitors
- Power supplies
- Magnetism
- Review for Exam 3

04/02 - **Graded Homework 3** is due before 11PM

04/07 - **Exam 3** will be taken in class with a YuJa Verity recording

04/07 - The follow lectures, notes, and practice homework become available

- Maxwell's equations
- Electromagnetic waves
- Refraction
- Optics
- Light polarization, lasers, scattering
- Diffraction
- Review for Exam 4
- Introduction to modern physics
- Review for Final Exam

04/30 - **Graded Homework 4** is due before 11PM

05/05 - **Exam 4** will be taken in class with a YuJa Verity recording

05/14 - **Final Exam** will be taken in class with a YuJa Verity recording

Important Dates

Thursday, January 23rd, is the last day to withdraw without record - 100% refund.

Friday, April 11th, is the last day to withdraw with record.