Mayville State University

CHEM 330: Quantitative Analysis – On-campus

Fall 2025

3 Credit Hours

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.

Instruction Mode: Face-to-face

Course Dates: 08/25/25 (course shell opens) to 12/15/25 (final exam)

Meeting Times and Location: MWF 8:00-8:50 AM ED 122

Time Zone: All times indicated throughout this syllabus reflect Central Time (CT).

Final Exam Time and Location: Mon. 12/15/25 from 8:00-9:50 AM, ED 122

Zoom Link: To be established if it becomes necessary.

Required Course Materials and Technologies

Required Materials

***Hardware*:** This online lab course requires a computer that meets the MSU technology requirements with a webcam, a microphone, and a reliable internet connection for two-way video and audio communication is needed for the student to be monitored by YuJa Varity while taking exams.

Achieve Access: Graded 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 bundled with the required textbook. The course ID this semester is "9bwwsf".

***Required Textbook*:** Quantitative Chemical Analysis, 11th Ed., Daniel C. Harris, Freeman, New York, 2026. ISBN-978-1-319-48770-6

Use of Artificial Intelligence in this Course

The use of AI should be helpful for in-class discussions.

Course Description

An upper-level one-semester course designed for students to apply concepts and solve analytical chemistry problems. This course covers topics including statistical treatment of data and error analysis, solution chemistry and solubility equilibria, volumetric analyses, acid-base neutralization, complexometric, and redox methods.

Co-requisites: Students should be co-enrolled in CHEM 330L.

Course Objectives

This course (as aligned to Composite Science Education Program Approval Standards through North Dakota's Education Standards and Practices Board) primarily focuses on the first twelve chapters in the textbook, and small parts of instrumentation-related chapters. Among the topics present in this course are analytical processes, error analysis and statistics, chemical equilibrium and chemical activity, acid-base chemistry, complex formation and equilibrium, and various types of separation and detection of analytes. This course is designed to equip students with a skill set suitable for working in an analytical laboratory environment.

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
- 13047.3 Inquiry The program requires study of the processes of science common to all scientific fields.

Course Expectations

Assignments and Assessments

Assignments: The course schedule, located near the end of this document, indicates the tentative timeline for assignments. Timely completion of the graded assignments in the Achieve course shell is required. The percentage from the homework assignment leading up to an exam can be averaged with the resulting percentage on the corresponding exam. If the percentage from the combined homework is less than the percentage on the exam, then the homework percentage is dropped.

Exams: The course schedule, located near the end of this document, indicates the tentative timeline for exams. The exams are in the Achieve course shell and follow a similar format to the homework assignments, in that feedback on incorrect responses will be provided, but guidance towards the correct solution will not be offered.

If you have a conflict with one of the scheduled exams because you are on a team roster for an away game, then you will be provided with a make-up exam period before you leave. If the make-up exam time is missed, you will receive a score of zero. Students are allowed to drop one exam (with the corresponding assignment set), so no other make-up lab reasons need to be considered.

All exams will be taken using an instructor-approved non-programmable calculator. You will need to record yourself taking the exams using YuJa Varity. Using a webcam and microphone, this software will record you taking the exam while capturing all on-screen computer activity. If the exam is completed without the corresponding YuJa Varity recording, a score of zero will be given, regardless of the score 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 Varity recordings through performing practice recordings.

Instructor/Student Communication

My preferred method of contact is office visits followed by e-mail. Although it is typically sooner, you should

expect a response to your e-mails within 48 hours. Although my e-mail responses will typically go to 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 in the Blackboard Student Learning forum. 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 assignment 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 the 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 sets of graded assignments, four required section exams, and one final exam.

1st Hour Exam + 1st Graded Homework Set	30%
2nd Hour Exam + 2nd Graded Homework Set	30%
3rd Hour Exam + 3rd Graded Homework Set	30%
4th Hour Exam + 4th Graded Homework Set	30%
Best 3 scores	90%
Final Exam	10%

Academic Dishonesty

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

Enrollment Verification

The U.S. Department of Education requires instructors of online courses to provide an activity that 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 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 who were enrolled on or before the first day of class.

Proctor Notification

YuJa proctoring is required for this class.

Important Student Information

In the Help & Resources for Students 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)

Course Schedule - Tentative

Tentative Course Schedule for CHEM 330 – Quantitative Analysis I

08/25 – Blackboard course shell opens

09/13 – Graded Homework 1 due & Exam 1 on Chapters 0-4 to be taken

10/11 - Graded Homework 2 due & Exam 2 on Chapters 5-8 to be taken

11/08 - Graded Homework 3 due & Exam 3 on Chapters 9-12 to be taken

12/06 - Exam 4 on Chapters 13,19-21

12/15 – Final Exam

Important Dates

- Monday, August 25th – the first day of class, the course shell opens in Blackboard
- Thursday, November 14th – last day to withdraw from term or drop with record