

**Minnesota Virtual Academy Online Syllabus for  
*Physics SCI403A and SCI403B***

**Course Instructor and Communications**

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**Office Hours: Monday through Friday 9:30-10:30 AM**

**Class Connect times: Tuesday and Thursday, 11:00**

**Teacher Contact Time:**

Class Connect sessions are designed as a way to provide instructional, academic, and social support to our students. These sessions are provided as a way to tie the lessons within the Online Learning System, Scantron Assessment tools, Study Island resources and the MN standards together to improve student achievement. Class Connects sessions are conducted via Blackboard. The times scheduled for Class Connects is listed above.

The instructor will also respond to students within 24 hours on scheduled school days, Monday through Friday, unless the teacher has previously notified their students that they will be unavailable for a period of time. Non-verbal communication is the primary communication platform for MNVA-High School teachers, students, Learning Coach, and administration. Often, the information is time-sensitive and many items require a specific response. The majority of communications to MNVA-High School students will be sent via Kmail. However, teachers might use Skype or phone calls to contact students if that method is preferred.

Each teacher is required to update their Announcement page in each subject on a weekly basis (or more often if desired).

Major projects submitted by the students will be processed and graded within a week.

**Student-to-Teacher Communications:**

Students may contact the teacher using the following methods:

*Kmail, Skype, email or phone*

**Student Attendance Expectations:**

Daily participation is required in the MNVA-HS program. Learning coaches are responsible for ensuring that their students are actively engaged in all of their courses on a daily basis.

Attendance will be taken daily and will be monitored by the advisors. Students are required to log in to each of their classes five days per week. Students should spend an average of at least one hour per day per course in their online classes. Failure to log in daily will greatly reduce the student's ability to be successful in his/her classes. Extended absences from coursework may constitute truancy.

Families requesting excused absences are responsible for notifying the MNVA-HS office about the length and reason for the absence. Absences of three or more days for medical reasons may require verification by the student's doctor. Families wishing to excuse absences due to travel or family vacations must notify their student's advisor prior to the vacation. Failure to notify the office in advance of the absence will result in the day(s) being marked unexcused and the student will be subject to MN school attendance laws.

If extenuating circumstances arise prohibiting the student from attending school, please contact the MNVA-HS office at (507) 896-5323 option 4 or toll-free at (866) 215-2292 option 4.

**Academic Support Available:**

Each student, in addition to the availability of scheduling one-on-one sessions with the instructor, has a student advisor and counselor assigned to offer assistance. The student advisor helps the student organize and prioritize the workload and manage the new educational environment that exists in the online world. The counselors serve to ensure the student is enrolled in the necessary coursework, both for graduation requirements and preparation for pursuits beyond high school.

**Technical Support Available:**

If a student is using his/her home computer, the student is responsible for computer hardware and software issues. If a technical need arises in regards to course material or a course CD, the student should contact K12 Technical Support at (866) 512-2273 and the technical support staff will assist him/her with the issue. If an MNVA-HS student is experiencing difficulties with an MNVA-HS-supplied computer, the student should contact K12 Technical Support immediately at (866) 512-2273 so the repair can begin promptly. The student should contact his/her teachers and the MNVA-HS office toll-free at (866) 215-2292 option 4 if he/she is experiencing technical issues.

**Communications with Resident District for Part-time Students:**

**Format and Frequency of Reports:**

The Lead Academic Advisor faxes grades at mid-semester and the end of the semester to the local school contact person, the parent and the student. If requested by the enrolling district, progress reports are faxed on a more regular basis.

**Format and Frequency of Communication:**

The Lead Academic Advisor phones or emails the enrolling district if any of the following issues arise:

- Plagiarism
- Lack of Attendance
- Lack of Progress toward Course Completion
- Compliance requirements due to 504 Plans or IEPs.

**Final Grades and Submission:**

The Lead Academic Advisor faxes final grades within 10 days of the end of the semester unless the enrolling district has requested the grades earlier.

## Course Outline

**Course Name:** *Physics SCI403A and SCI403B*

**Course Credits:** 1 per semester

**Course Prerequisites:** MTH303: Algebra II and MTH403: Pre-Calculus/Trigonometry (or equivalents) (MTH403 strongly recommended as a prerequisite, but this course may instead be taken concurrently with SCI403)

**Course Description:** This course provides a comprehensive survey of all key areas: physical systems, measurement, kinematics, dynamics, momentum, energy, thermodynamics, waves, electricity, and magnetism, and introduces students to modern physics topics such as quantum theory and the atomic nucleus. The course gives students a solid basis to move on to more advanced courses later in their academic careers. The program consists of online instruction, virtual laboratories, and related assessments, plus an associated problem-solving book available online.

**Course Goals and Objectives:** The students will understand scientific rules of the physical world and how matter works.

**Topic Outline:**

- I. Intro to Physics
- II. Units and Measurement
- III. Graphing and Problem Solving
- IV. Kinematics
- V. Forces
- VI. Net Forces and Vectors

- VII. Motion in Two Dimensions
- VIII. Gravitation
- IX. Physics and Scientific Inquiry
- X. Momentum
- XI. Work
- XII. Energy
- XIII. Thermal Energy
- XIV. Waves
- XV. Light
- XVI. Electric Forces
- XVII. Currents and Circuits
- XVIII. Magnetism
- XIX. Modern Physics

**Required Texts and / or educational materials:**

**Minimum Technical Requirements:**

Students may use either a Mac or PC with the following capabilities:

- ☑ Speed: 1.8 GHz or better
- ☑ RAM: 512 MB (minimum)
- ☑ Disk space: 20 GB or more
- ☑ CD-ROM or DVD drive
- ☑ Monitor: 15-inch flat panel
- ☑ Audio: 16-bit sound card
- ☑ Modem: 56 kbps (minimum)
- ☑ Microphone and speakers
- ☑ Operating system: Windows XP SP2 or better
- ☑ Microsoft® Internet Explorer version 6.0
- ☑ Adobe® Reader®
- ☑ Macromedia Flash™
- ☑ Shockwave™
- ☑ QuickTime®

Students are expected to be competent in using current technology appropriate for this class. Such technology may include word processing, spreadsheet, and presentation software. Ability to use the Internet and e-mail, download files from e-mails and the Internet, and attach files to e-mails and upload files is also required.

**Final Exam (Date, Time and Location):** Final must be taken by 3:30 PM on January 24<sup>th</sup> first semester and 3:30 PM on June 4<sup>th</sup> second semester.

**Extra Credit Option (If available):** Extra credit is offered for attending class connect sessions or listening to the recordings of the sessions.

**Assessment of Student Work**

**Grading:**

During online courses, students will receive grades for homework assignments, quizzes, tests, projects, participation and other activities. Students will be able to see their grades at any time by going to their grade books. If students have questions about grading procedures, they should contact their instructors.

**Students are required to save their work throughout the semester.** By saving their work, students will be able to retrieve any assignments in question and review them with their teachers in the event of a dispute or question over a grade.

MNVA-HS Grading Scale

93-100 = A	4.0	83-86 = B	3.0	73-76 = C	2.0	63-66 = D	1.0
90-92 = A-	3.7	80-82 = B-	2.7	70-72 = C-	1.7	60-62 = D-	0.7
87-89 = B+	3.3	77-79 = C+	2.3	67-69 = D+	1.3	0-59 = F	0

**Policy for Late or Missing Assignments:**

*Teacher graded assignments turned in after midnight on the Sunday they are due will receive a late penalty of 25%. The late penalty becomes 50% if turned in during the last 2 weeks of the semester.*

**Policy for Addressing Academic Dishonesty:**

If a student is found plagiarizing or cheating, disciplinary action will be taken. The student will be notified by the teacher regarding the plagiarism. The teacher will also send notification of the plagiarism to the MNVA-HS office to be placed in the student's file.

- **First offense:** the student will be required to redo the assignment. Based on the teacher's syllabus, the student's grade will reflect a reduction of points for the plagiarized assignment.
- **Second offense:** the teacher will notify the student and his/her learning coach and arrange a meeting to discuss plagiarism and establish a system to ensure the behavior stops. The student will receive a zero on the assignment or be asked to redo it for partial credit.
- **Third offense:** a meeting will be called between the student, learning coach, teacher, advisor and administrator to address the recurrent plagiarism and discuss an academic plan to correct the problem and increase the student's understanding of academic integrity.

Repeated offenses may result in the recommendation that the student be removed from the course. Removal from a course is subject to authorization by administration and, where necessary, will result in a failing grade in the course for the semester.

**Minnesota Academic Standards Alignment (If no Minnesota Academic Standards exist, alignments follow national professional standards.)**

The *Physics SCI403A and SCI403B* class aligns with the elements of the Minnesota Academic Standards of science.

A complete list of alignments can be found at

[http://www.hps294.us/\\_layouts/15/WopiFrame.aspx?sourcedoc={6B9B9371-15DB-4FF6-B7A3-215897E848EC}&action=default](http://www.hps294.us/_layouts/15/WopiFrame.aspx?sourcedoc={6B9B9371-15DB-4FF6-B7A3-215897E848EC}&action=default)