



Guidelines for Awarding Credit in Career and Technical Education (CTE), Humanities, and Other Delivery Models

MCL 380.1278b(7) The board of a school district or board of directors of a public school academy that operates a high school shall ensure that each pupil is offered the curriculum necessary for the pupil to meet the curricular requirements of this section and section 1278a. The board or board of directors may provide this curriculum by providing the credits specified in this section and section 1278a, by using alternative instructional delivery methods such as alternative course work, humanities course sequences, career and technical education, industrial technology courses, or vocational education, or by a combination of these. School districts and public school academies that operate career and technical education programs are encouraged to integrate the credit requirements of this section and section 1278a into those programs.

*MCL 380.1278a Excerpt: (i) At least 4 credits in mathematics that are aligned with subject area content expectations developed by the department and approved by the state board under section 1278b, including completion of at least algebra I, geometry, and algebra II, or an integrated sequence of this course content that consists of 3 credits, and an additional mathematics credit, such as trigonometry, statistics, precalculus, calculus, applied math, accounting, business math, a retake of algebra II, a course in financial literacy as described in section 1165. A pupil may complete algebra II over 2 years with 2 credits awarded or over 1.5 years with 1.5 credits awarded for the purposes of this section and section 1278b. **A pupil also may partially or fully fulfill the algebra II requirement by completing a department-approved formal career and technical education program or curriculum that has appropriate embedded mathematics content, such as a program or curriculum in electronics, machining, construction, welding, engineering, or renewable energy.***

Overview of Requirements and Responsibilities

The high school graduation requirements specify the minimum number of credits a student must have in English language arts, mathematics, science, social studies, physical education/health, arts, and languages other than English. The responsibility for planning and scheduling courses, for delivering instruction, and for awarding credit resides with the local school district. The High School Content Expectations were developed, approved, and published to help schools align curriculum and instruction to allow students to demonstrate that they have met expectations and can receive credit.

The local school district or public school academy is responsible for awarding credit and for specifying which courses or programs will earn credit. This is especially important with the math-related credit and the visual, performing, and applied arts credit. In both of these areas many courses or programs could be designated as qualifying for math-related or visual, performing and applied arts credit, and students, parents, and teachers should have a clear understanding of which credits will be awarded in these areas.

Career and technical education (CTE), integrated course sequences (humanities, for example), and project based learning are delivery models in which students may earn credit or partial credit by successfully demonstrating that they have met subject area content expectations. The assignment of credit must be based, in part, on student performance on an assessment or assessments that measure student achievement of expectations. These programs give students the opportunity to apply academic content in real-world situations to demonstrate proficiency. Students must complete all of the high school credit requirements at the same level of performance as required of all Michigan students. CTE students must also meet the technical standards and certification requirements of their chosen field of technical study.

Part I. Developing a Process for Assigning Credit in CTE

1. Form a work team with teachers from both the academic subject areas and from state approved CTE instructional program areas.
2. Using the High School Content Expectations, CTE standards, curriculum documents and instructional units, review the CTE courses to determine which courses include substantial academic content, e.g., Health Sciences for science content, Business Administration for English language arts content, and Aeronautics/Aviation/Aerospace for math content.
3. The team should work together to determine which CTE programs will offer academic credit and how much credit can be offered.
4. When gaps in content expectations are identified, the team can plan ways to meet the remaining content expectations, such as using online courses or tutorials or a project. The school has flexibility to develop ways to assist each student to meet all content requirements.
5. Academic and CTE teachers work together to develop the curriculum for each course that will be credit-bearing and to specify the assessments to be used to measure student progress toward proficiency. Assessments can be based on a state developed assessment, created by the local district, or purchased, as long as the assessment measures the content taught.

6. Co-teaching or collaborative teaching (described below) must be used to develop and/or deliver CTE courses for academic credit. (Note: co-teaching or collaborative teaching is not required for CTE courses that will qualify to satisfy either the math-related credit or the visual, performing, and applied arts credit.)

Collaborative Teaching Model

The collaborative teaching model is required for all CTE programs that are taught by teachers who are not highly qualified in the academic content area (math, science, etc.), but are certified or annually authorized in CTE. The collaborative teaching model was developed by the New York State Education Department. It involves the ongoing, active, and substantive participation of teaching professionals, working in proximity and representing different educational content areas, directed toward the creation and delivery of integrated, aligned instruction. The collaborative teaching of CTE courses is based on criteria that are consistent and demonstrable:

- Involvement of at least one highly qualified teacher of the core academic subject and at least one certified CTE teacher.
- The course is based on the Michigan High School Content Expectations and the applicable CTE technical standards and is co-developed, as indicated by the completion of a curriculum document showing the crosswalk between standards and specifying the assessment or assessments to be used to measure student proficiency.
- Scheduled meetings throughout the school year of all teachers involved in collaborative teaching to discuss student progress.
- Completion of professional development activities involving both core academic subject and CTE subject areas.
- Completion of an annual review by collaborating teachers of student achievements and the development of suggestions for continuous improvement.
- Submission of an annual report by collaborating teachers to school or school district administration.

A recommended part of the collaborative teaching process includes the completion of a year plan (scope and sequence) for instructional delivery involving both the core academic teacher(s) and the CTE teacher(s).

Collaborative Teaching for Relevance

The CTE model of collaborative teaching is described above, but a similar model should be established in core academic classrooms as well. The math, English language arts, social studies, and science teachers should work with CTE teachers and business professionals from the community to help students understand how the academics will help them in “real world” situations. The opportunity to make the connection between school and postsecondary work, training, and education will help prepare all students for the 21st century world that awaits them after graduation.

Part II. Developing a Process for Assigning Credit in Integrated Course Sequences and Project Based Learning

1. Form a work team with teachers from all of the academic disciplines that will be covered in the course sequence or project based learning block.

2. Using the High School Content Expectations, identify the expectations that will be taught and create the course syllabus.
3. The team should work together to determine what type of academic credit (social studies, science, visual arts, etc.) will be offered and how much credit can be awarded upon completion.
4. When gaps in content expectations are identified, the team can plan ways to meet the remaining content expectations, such as using online courses or tutorials or a project. The school has flexibility to develop ways to assist each student to meet all content requirements.
5. The team will also specify assessments to be used to measure student progress toward proficiency. Assessments can be based on a state developed assessment, created by the local district, or purchased, as long as the assessment measures the content taught.

Collaborative Teaching Model in Other Disciplines

Career and Technical Education has pioneered the use of a collaborative teaching model to integrate academic instruction with hands-on career instruction. It was begun, in part, to overcome difficulties of awarding academic credit when using teachers that were not deemed “highly qualified” in an academic subject area. Collaborative teaching will be just as effective in integrated course sequences or project based learning models. It involves the ongoing, active participation of teaching professionals from different academic disciplines, working in proximity to incorporate different educational content areas into a comprehensive unit that can cover a variety of content expectations over the course of a semester or a school year. Teachers can create and deliver integrated, aligned instruction and move students toward proficiency in a coherent, efficient process. The collaborative teaching, based on the CTE model, has criteria that are consistent and demonstrable:

- Involvement of teachers that are highly qualified in each of the academic disciplines in the sequence or project based model. In a math/science integrated sequence, for example, teachers that are highly qualified in each discipline will be involved in the planning, development and teaching.
- The course is based on the Michigan High School Content Expectations and the curriculum and syllabus are co-developed, showing the high school content expectations to be covered and specifying the assessment or assessments to be used to measure student proficiency.
- Scheduled meetings throughout the school year of all teachers involved in collaborative teaching to discuss student progress.
- Completion of professional development activities involving all academic subject areas.
- Completion of an annual review by collaborating teachers of student achievements and the development of suggestions for continuous improvement.
- Submission of an annual report by collaborating teachers to school or school district administration.

A recommended part of the collaborative teaching process includes the completion of a year plan (scope and sequence) for instructional delivery involving teachers from all of the academic disciplines involved in the integrated sequence or project based model.