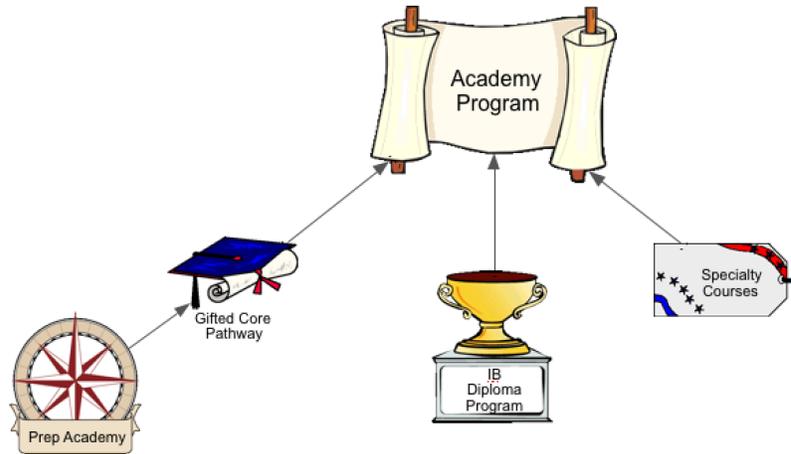


The Scheduler's Guidebook to the Academy

An explanation of courses available at
DMPS's Central Academy





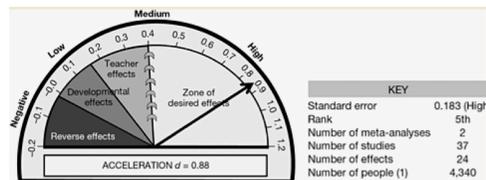
GIFTED CORE PATHWAY

The Gifted Core Pathway can be the most confusing to understand in context of the comprehensive school course offerings because the names of the courses are the same or similar to courses offered in every school. Students who exhibit gifted behaviors are not born knowing Algebra. They still need to learn the content and meet the requirements for graduation. So, why not just have all kids take Algebra at the neighborhood school?

Students with gifted behaviors benefit tremendously from curriculum compaction and acceleration and tend to under-achieve without it. Students should demonstrate one year of growth over a year of time. However, students with gifted behavior often do not reach this mark when studying at the normal pace of curricula (Rae, 2000; Siegle & McCoach, 2005). Often this underachievement is masked because even when students with gifted behaviors do not progress as quickly as they should, they usually score in the 'proficient' range. Academy's Gifted Core Pathway is a Tier II /Tier III intervention in the Multi-Tiered System of Support for students who are discrepant from their peers.

Curricular compaction and acceleration

Noted educational researcher, John Hattie, described curricular compaction and acceleration as one of the most effective strategies for increasing the achievement in gifted students in his book, *Visible Learning* (2009).



(Hattie, 2009, p. 100)

Compaction and acceleration are treated the same by Hattie in his meta-

analyses; however, there are some distinctions between the two strategies that are utilized in the courses of the Gifted Core Pathway at Academy. Compaction means that certain foundational elements of the curriculum can be skipped because every student in the room has mastered them before the start of the class. Compaction is accomplished by means of acceleration—completing the base curricula in less time—in earlier grades. The courses in the 8th and 9th grades at Academy are typically accelerated whereas courses like AP Literature and AP US History are compacted.

Compaction and acceleration have the largest effects on students with gifted behaviors. Although, there are some claims that acceleration is good for all students, Hattie's analysis found an overall tiny effect size of $d = 0.09$ (almost zero effect) when acceleration was applied widely to general populations.

INTERNATIONAL BACCALAUREATE DIPLOMA PROGRAMME

The IB Diploma Programme is only for 11th and 12th grade students. The program emphasizes concurrency of learning. While students may take IB courses without being Diploma candidates, the seven courses are taught over two years and are designed to reinforce each other for the full learning experience. The IB Diploma Programme emphasizes scholarship, leadership and service. Students must take a series of exams for each course to earn a cumulative score high enough to earn the Diploma. Academy's current rate of Diploma Attainment is 89.4%; the national average rate is 74% and the world rate is 78%. Read more about the Diploma Programme on our website: www.ca.dmschools.org.

SPECIALITY COURSES

Taking advantage of DMPS' size, the Academy offers scholarly courses that are too specialized to offer in every high school. DMPS offers 32 one-of-a-kind courses at Academy including several levels of seven world languages, unique courses in mathematics, language arts, art, and computer science. There are five AP courses that are only offered at Academy.

REFERENCES

- Hattie, J. A. C. (2009). *Visible learning: A synthesis of meta-analyses relating to achievement*. New York, NY: Routledge.
- Rae, D. W. (2000). Optimal motivation for talent development. *Journal for the Education of the Gifted*, (23), 187–216.
- Siegle, D., & McCoach, D. B. (2005). Making a difference: Motivating gifted students who are not achieving. *Teaching Exceptional Children*, 38(1), 22–27.

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Eligibility

Students must be identified to join the Academy as 7th and 8th graders. To remain in the Academy, students must maintain an A or B in their classes. The courses at the Academy are accelerated and compacted. If students are missing foundational concepts, it will be difficult to catch up and keep pace. Most Academy courses for 9 - 12th grades are college level courses, including many of the World Language classes. Students should be prepared for college level work if they elect to take courses at the Academy.

7th Grade Prep Academy Selection

The 7th grade Prep Academy prepares young people who are part of our community's under-represented populations for accelerated learning at Central Academy. The curriculum is concentrated in reading, English, and mathematics.

Students will be invited to attend the half day preparatory program at Central Academy using the following criteria:

- Students must be performing at the 80th percentile or higher on the ITBS or on a comparable nationally normed test in reading. Other major sub-test percentile scores should also be in the 80's (as a minimum standard).
- Students must either be a member of a nationally recognized underrepresented group in gifted education or be enrolled in a high poverty middle school.
- School recommendation that the student's academic needs could be best met at the Prep Academy.
- Parent permission.
- Student performance on the Cognitive Abilities Test, or Naglieri Non-Verbal Aptitude Test will also be considered.
- Students need to be ready for Accelerated Math, Year 2.

Participation in the Prep Academy does not guarantee admission to Central Academy as an 8th grader. Prep Academy students must meet the same criteria for entrance as other incoming 8th grade students. Prep Academy Advisor: Denis Hildreth
denis.hildreth@dmschools.org

8th Grade Academy Selection

The 8th Grade Academy program is designed for students who are academically prepared to accelerate their learning by one grade in three subjects. Students are evaluated according to a comprehensive set of criteria to ensure they are prepared for three rigorous, accelerated classes. These criteria include:

- Performance on standardized assessments (Iowa Assessments) in reading, mathematics, and science
- Grades in core subject areas
- Placement in mathematics
- Gifted/Talented identification
- Teacher evaluation
- Attendance

Students in the 8th Grade Academy take three academic courses at the high school level. All students must take English. Students then study two additional subjects with classes in mathematics, science, and/or social studies available. Students *may* elect to receive high school credit upon successful completion of each course. Course options for 8th grade students are:

- English: Language, Literature, & Composition (equivalent to English I)
- Mathematics*: Algebra I, Geometry, Radically Accelerated I, or Algebra II
- Science: Conceptual Physics & Environmental Science (one semester of each of these courses prepares students to take Accelerated Chemistry and Accelerated Biology in 9th grade).
- Social Studies: US Government[^] & Current Issues

*A placement exam will be given to determine mathematics course placement.

[^]This course satisfies the State of Iowa and Des Moines Public Schools' graduation requirement for US Government.

High School Academy Eligibility

Incoming 9th grade students in the Des Moines Public Schools and surrounding Central Iowa school districts are eligible to attend Central Academy if they meet at least one of the following criteria:

- Outstanding performance on Iowa Assessments in reading comprehension, mathematics and science.
- Equivalent scores on any nationally recognized and normed achievement test such as the Comprehensive Test of Basic Skills or the California Achievement Test.
- All students must have demonstrated academic achievement by maintaining A's and B's in the core subjects during 7th grade and/or 8th grade.

In addition, Des Moines middle school gifted and talented building teams may recommend students for Central Academy based upon demonstrated performance at the respective middle school. This recommendation requires:

- Outstanding performance and potential in academics
- Recommendations from three of the four course curriculum instructors
- High level of performance in standardized testing-upper 90's in several areas.

International Baccalaureate Selection

Des Moines Public Schools is the first school district in Iowa to offer the International Baccalaureate program at all grade levels, and Central Academy is the only school in Iowa to offer the prestigious IB Diploma.

The Diploma Programme (DP) is a demanding pre-university course of study that is designed for highly motivated juniors and seniors.

Recipients of an International Baccalaureate Diploma have a definitive edge when they are applying to colleges and universities. The grading system is criterion based. Each student's performance is measured against well defined levels of international achievement. Grades reflect attainment of knowledge and skills relative to set standards that are applied equally to all International Baccalaureate schools.

This highly respected international curriculum emphasizes critical thinking, creativity, community service, science, and the humanities. International Baccalaureate focuses on the development of the whole child, not just one set of examinations.

Teachers participate in professional development designed specifically for teaching International Baccalaureate students. The teachers are held accountable to International Baccalaureate standards and International Baccalaureate evaluators regarding student performance.

Developing the state's first International Baccalaureate program enhances educational opportunities for Des Moines students by providing another option for a certified world class education.

Participation in International Baccalaureate is open to any high school student motivated to participate in the world's most widely recognized program of study.

For additional information please contact:

Tamara Pfantz
International Baccalaureate Coordinator
Central Academy
(515) 242-8512
tamara.pfantz@dmschools.org

Pathways

Preparing for IB Diploma Programme Central Academy International Baccalaureate Preparation

The IB Diploma Programme is considered to be one of the most rigorous and thorough college-preparatory curricula available. Students who earn the IB Diploma are often accepted at higher rates than the general population at highly selective universities. While there are no “pre-requisites” for IB courses, early planning and preparation are keys to success in Diploma Programme courses.

The IB Diploma is an internationally-recognized diploma. However, earning the IB Diploma is not a guarantee, even if students complete all of the requirements. Therefore, students must be prepared to earn a diploma from Des Moines Public Schools, or their district of residence. IB courses fulfill many graduation requirements of the Des Moines Public Schools and the state of Iowa. However, students should verify their progress toward graduation each year with the counselor at Central Academy or at their home school. Because of the demanding and inflexible course load required by IB, students who are credit deficient at the beginning of eleventh grade will not be considered for acceptance into the IB Diploma Programme.

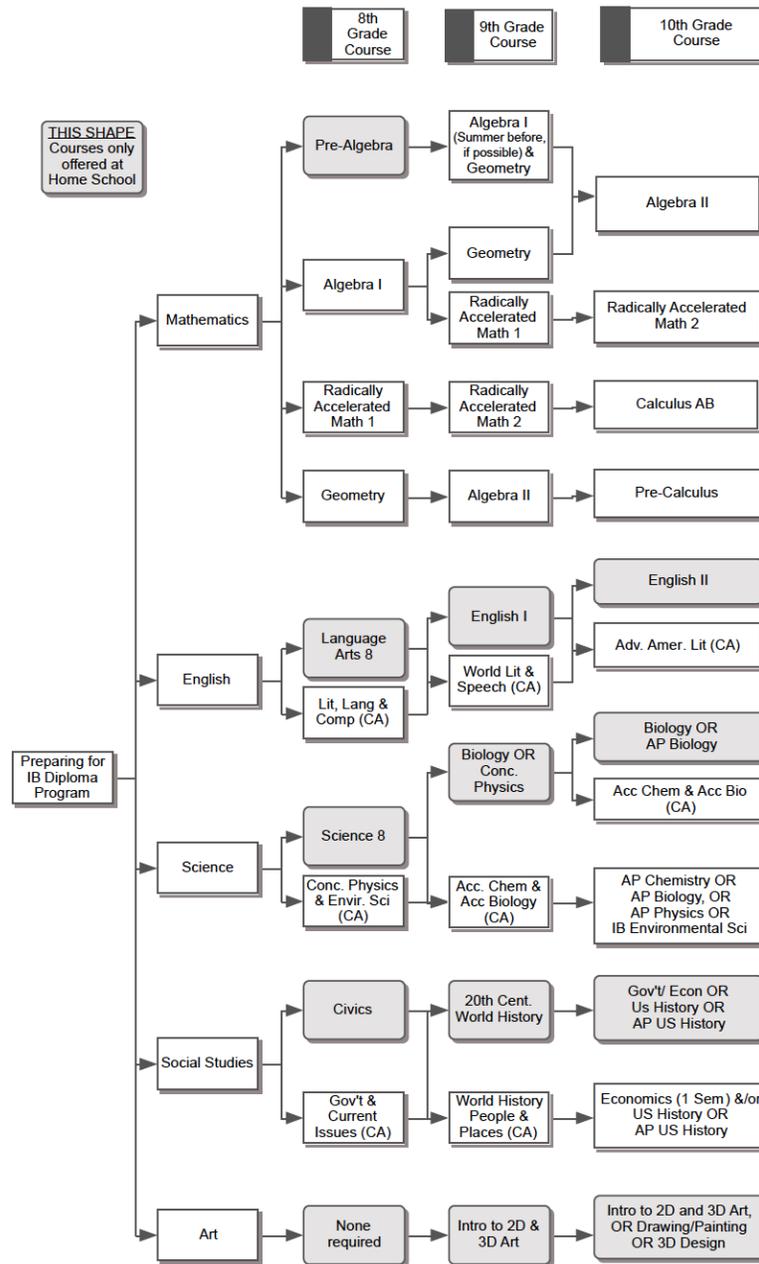
Course Recommendations for 9th and 10th Grade Students

Coursework ideally completed by the end of sophomore year:

- US government (Iowa graduation requirement)
- Economics (DMPS graduation requirement)
- US history* (Iowa graduation requirement)
- Algebra II

*As of 2012-13, this requirement can be satisfied when IB History of the Americas is taken as part of the IB Diploma Programme

Preparing for IB DP: Recommended Course Pathways

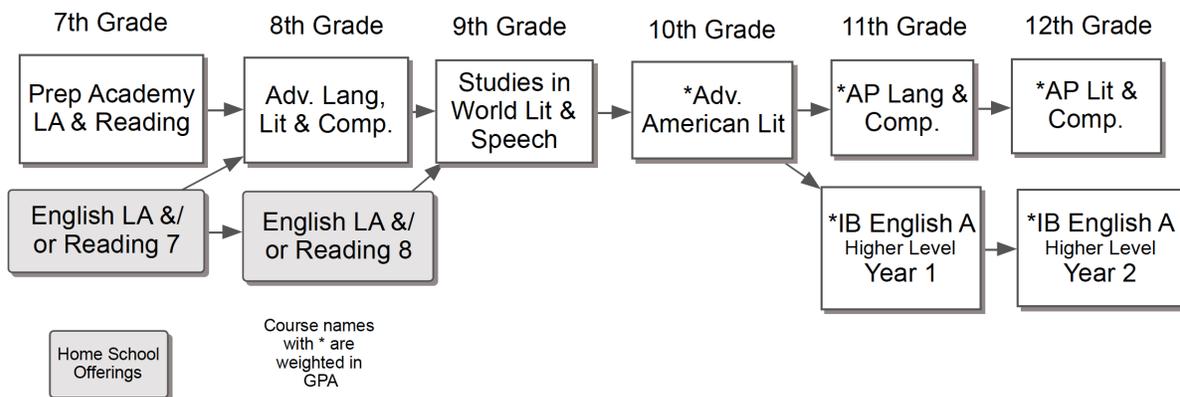


English Pathway

Central Academy English Department Mission

The Central Academy English Department is committed to strengthening students' aesthetic and intellectual engagement in understanding and appreciating a wide range of both classical and contemporary literature. Students are encouraged to develop an appreciation of the strength and beauty of the English language and develop flexibility in writing not only as a tool for learning but as a means of self-expression and power in their lives. Asking important questions about human experience and making thoughtful judgments about their reading and writing are important aspects of student learning.

The literature curriculum begins in every class (7th-12th) with a summer reading assignment followed by an essay within the first two weeks of school. It also focuses on the study of whole works in each year from Homer to Dostoevsky and emphasizes higher order thinking skills and applying language arts skills in a variety of contexts. Composition, speaking, and listening are parts of every course. The courses are vertically and horizontally aligned to support an accelerated and compacted pathway for gifted and talented students as well as highly motivated and disciplined students who seek advanced course work. Students who complete the eighth grade Language, Composition, and Literature course and the ninth grade World Literature, Composition, and Speech course earn 2.5 high school English credits allowing them to complete a full year each of Advanced American Literature (English III) as sophomores, Advanced Placement Language and Composition as juniors, and Advanced Placement Literature and Composition before graduating. Both of the Advanced Placement courses are taught as college courses and prepare students for advanced classes in college. Students are encouraged to take risks as they develop their abilities to think logically and critically and acquire the habits of academic scholarship.

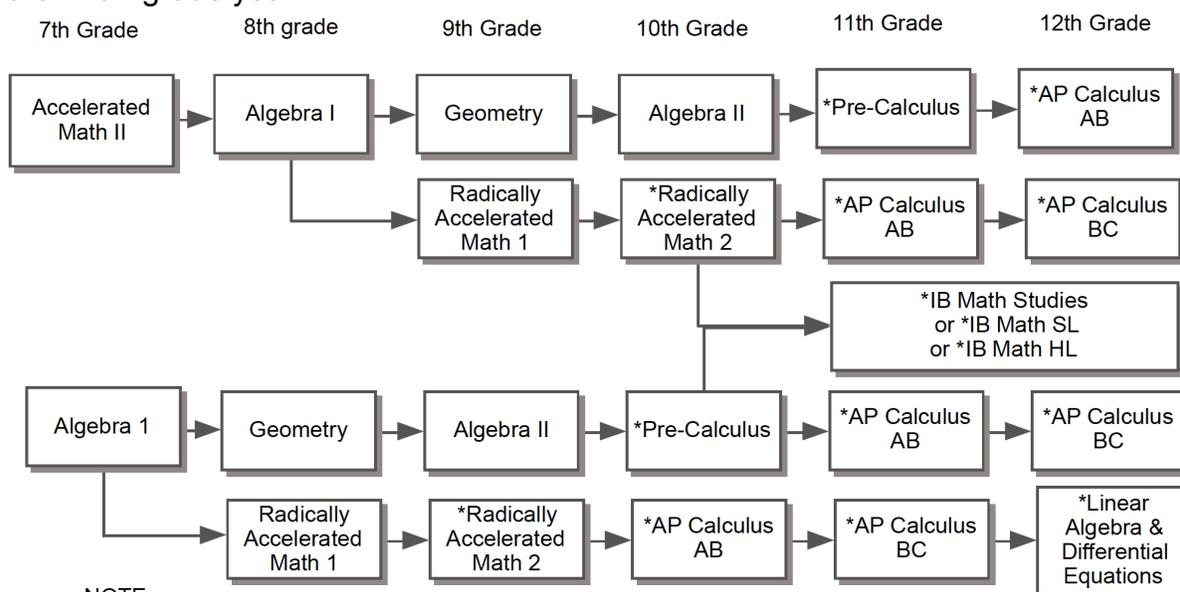


Math Pathway

Central Academy Mathematics Department Mission

Mathematics courses at Central Academy move students from concrete problems to abstraction and general theories in an accelerated and compacted manner with an emphasis on depth of knowledge within the course objectives. In addition to the content and skills of the mathematical curricula, Academy course work focuses on mathematical process standards and building mathematical community. Our emphasis: Precise mathematical communication and deductive reasoning through comprehensive technical writing.

All incoming student must take a mathematics placement test. All potential IB Diploma Programme students will take the IB Mathematics Placement test in the spring of their 10th grade year.



NOTE:
Students who are taking Geometry and above in 7th grade will be accommodated accordingly

Course names with * are weighted in GPA

NOTE: Central Academy also offers another math course called Advanced Mathematical Problem Solving (AMPS). This course can be taken multiple times by students who are excited about mathematics and want to study topics not normally covered in the high school curriculum such as mathematical modeling.

AP Computer Science is also offered at Academy. Algebra II is a pre-requisite.

Science Pathway

Central Academy Science Department Mission

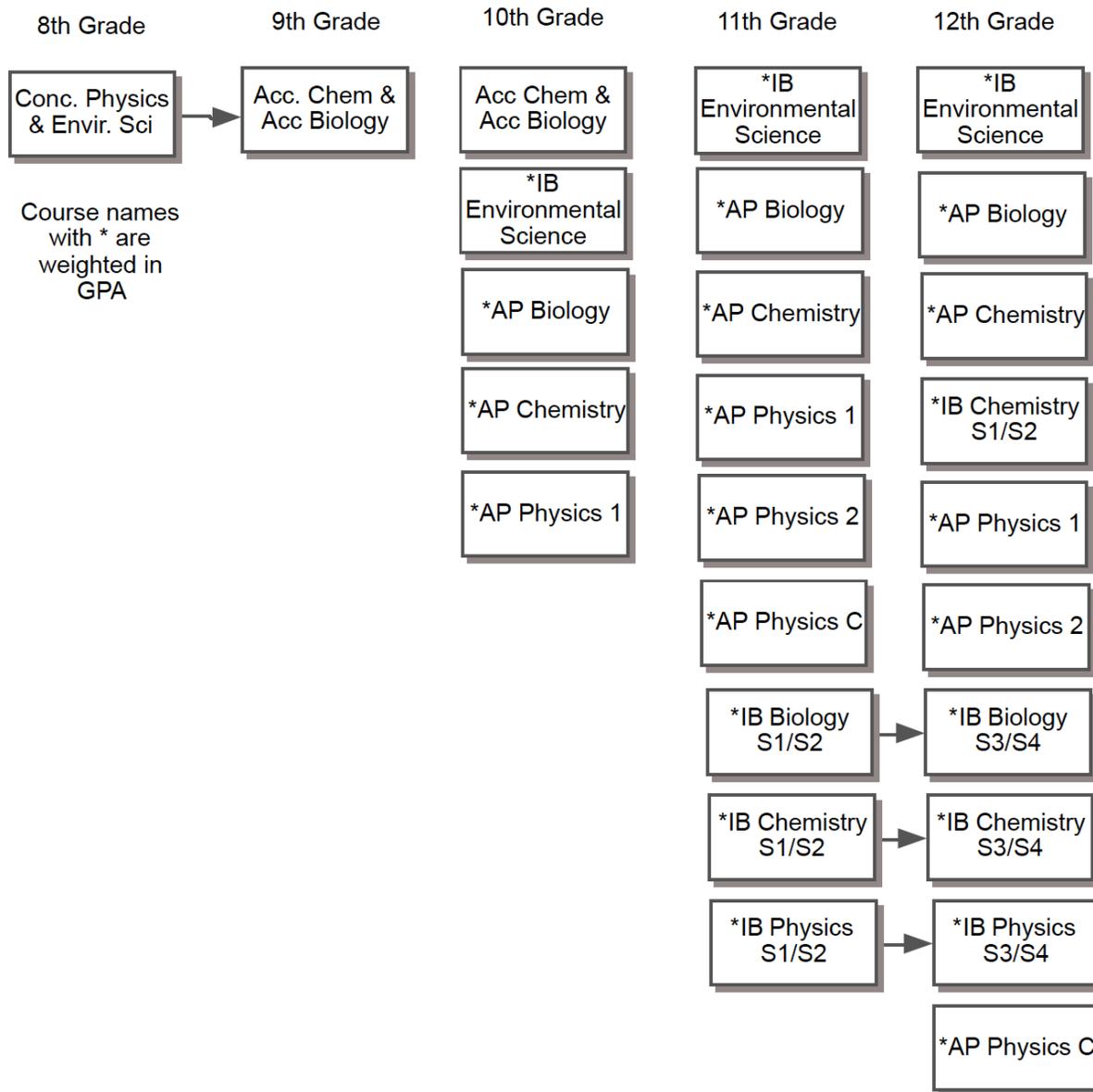
The science courses offered at Central Academy for students in their 8th and 9th grade years are foundational and designed to provide the necessary skills and knowledge for the Advanced Placement and International Baccalaureate coursework offered in sophomore through senior years of our science program.

During our accelerated science coursework, traditionally offered in the ninth grade year at Central Academy, one year of coursework is condensed and covered in each semester. The pace of the course is twice as fast as a typical high school course. As a result, students are expected to complete substantial reading and homework assignments outside of class. In class, time is spent primarily covering new material and investigating through laboratory experiences; little time is spent reviewing content and doing homework.

Advanced Placement and International Baccalaureate coursework at Central Academy is rigorous and demanding. These courses are college-level courses and are designed to be a continuation of skills and knowledge developed in previous Central Academy science classes. These courses go above and beyond the articulated curriculum of the Advanced Placement and International Baccalaureate programs, with an emphasis on developing connections between disciplines and modern discoveries. Laboratory experiences are a primary focus of this upper-level coursework with students designing, carrying-out, analyzing and drawing conclusion from original research. Students are expected to complete significant reading and homework assignments outside of class.

The International Baccalaureate Diploma candidates are required to focus on one scientific discipline (Biology, Chemistry or Physics) for both their junior and senior years. IB Diploma Programme candidates should be highly motivated students who enjoy intellectual and academic challenge. In addition to the coursework in their focus area, students will complete an interdisciplinary scientific research project during their junior year.

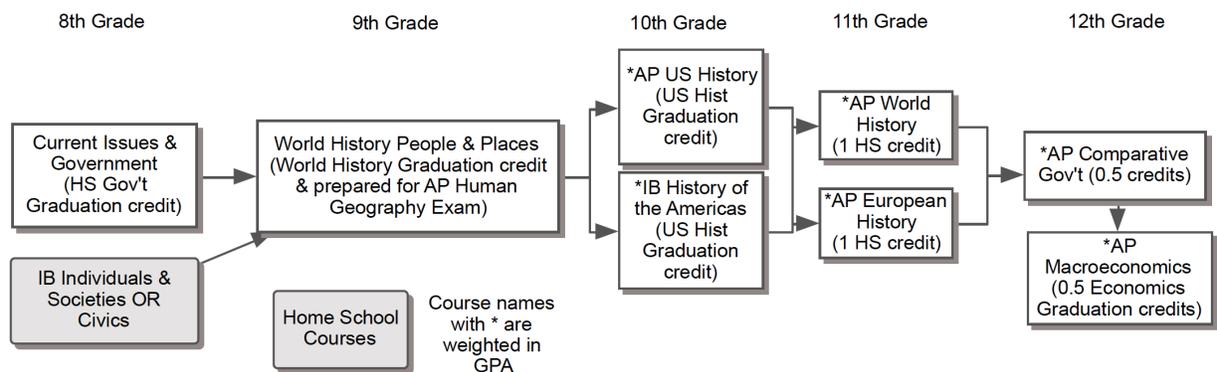
Scheduler's Guidebook to the Academy



Social Studies Pathway

Central Academy Social Studies Department Mission

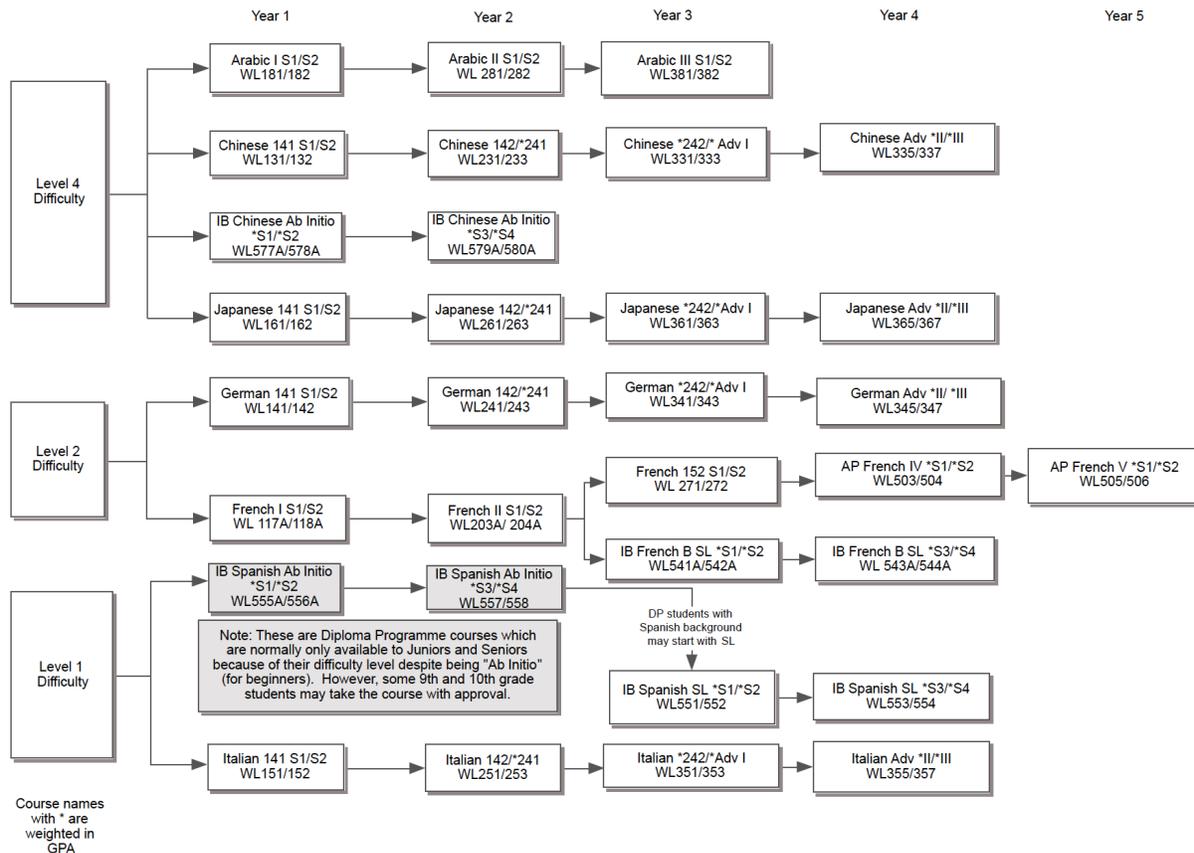
Central Academy Social Studies provides students with an in-depth analysis in historical and social science reasoning, reading, writing, critical thinking, and communication. In addition, students will make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world (NCSS). Social Studies courses incorporate analysis of the human experience and behavior; place, environment and change between social and physical systems; and the history of and processes of change in social and cultural institutions.



World Languages Pathway Central Academy World Language Department Mission

World languages are grouped on how difficult they are for English speakers to learn with 4 being the most difficult and 1 being the least difficult. Arabic, Chinese and Japanese are listed as 4's. German is 2 and Italian is 1. Good attendance and organizational skills are crucial to success.

Chinese, German, Italian and Japanese are classes that are dually enrolled with DMACC. This means that the student must take the class for DMACC credit and therefore the semester grade becomes part of his/her college transcript. Courses with an asterisk (*) are weighted. The Chinese, German, Italian and Japanese courses with an asterisk (*) are the DMACC courses.



NOTE: IB World Languages are for 11th and 12th grade students in the Diploma Programme. We have two 'Ab Initio' options (Chinese and Spanish) for students starting the language in 11th grade. We have two Standard Level (SL) options (French and Spanish) for those with experience in the language.