Core comparison – A comparison of current minimum Ohio high-school curriculum requirements and how they have changed under the new Ohio Core plan which recently passed the Ohio legislature: (Each unit equals 120 hours except for Physical Education where ½ unit equals 120 hours.)

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CURRENT LAW</th>
<th>THE OHIO CORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>English language</td>
<td>4 units</td>
<td>No change</td>
</tr>
<tr>
<td>arts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>3 units</td>
<td>4 units, including 1 unit of algebra II or its equivalent</td>
</tr>
<tr>
<td>Science</td>
<td>3 units, including 1 unit of physical science and 1 unit of biology</td>
<td>3 units with inquiry-based laboratory experience, including the following, or their equivalent: 1 unit physical sciences; 1 unit biology; 1 unit of advanced study in chemistry, physics, or other physical science; advanced biology or other life science; or astronomy, physical geology, or other earth or space science</td>
</tr>
<tr>
<td>Social studies</td>
<td>3 units, including ½ unit of American history and ½ unit of American government</td>
<td>No change</td>
</tr>
<tr>
<td>Health</td>
<td>½ unit</td>
<td>No change</td>
</tr>
<tr>
<td>Physical education</td>
<td>½ unit (120 hours)</td>
<td>½ unit (120 hours). Students who participate in high school athletics, marching band or cheerleading for two seasons will be permitted to substitute ½ unit (60 hours) of another course of study if local board policy allows.</td>
</tr>
<tr>
<td>Electives</td>
<td>6 units, which must include 1 unit (or two ½ units) from business/technology, fine arts or foreign language</td>
<td>5 units, which must consist of one or a combination of foreign language; fine arts (see below); business; career-technical education; family and consumer sciences; technology; agricultural education; or English language arts, math, science or social studies courses not otherwise required under the Ohio Core</td>
</tr>
<tr>
<td>Fine arts</td>
<td>Can be an elective</td>
<td>At least two semesters or equivalent of fine arts in grades seven through 12 are required for graduation except for certain career-technical students</td>
</tr>
<tr>
<td>Economics and</td>
<td>Not required</td>
<td>Must be integrated into one or more of the social studies courses or the content of another required course</td>
</tr>
<tr>
<td>financial literacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>20 units</td>
<td>20 units</td>
</tr>
</tbody>
</table>

Source: Ohio Legislative Services Commission
The Ohio core requirements for graduation are the standard expectation beginning with students who enter ninth grade for the first time on or before July 1, 2010, except for options as provided by the law as stated below. In order to attend a four-year college/university in Ohio after graduation from Fairmont High School, students in the Class of 2014 and beyond will be required to complete the Ohio Core. The requirements for every public and chartered nonpublic shall include 20 units that are designed to prepare students for the workforce and college. Each unit equals 120 hours with the exception of Physical Education units for which \( \frac{1}{2} \) unit equals 120 hours.

Option I: After the student has attended high school for two years, as determined by the school, the student and the student’s parents, guardian or custodian may sign and file with the school a written statement asserting the parent’s, guardian’s or custodian’s consent to the student’s graduating without completing the Ohio core curriculum and acknowledge that one consequence of not completing the Ohio core curriculum is ineligibility to enroll in most state universities in Ohio without further coursework. That student then would be required to fulfill a minimum of the 20 hours shown as “current law” on this chart.

Option II: Local school districts may require more rigorous graduation requirements. Note: Currently Kettering City Schools requires 21.5 credits for graduation.

Option III: Students enrolled in drop-out prevention and recovery programs for which a waiver has been issued from the Ohio Department of Education are exempt from the Ohio core curriculum requirements, but students must meet the specific requirements of the program in which they are enrolled.
Ohio Core: Not Your Parent’s High School Curriculum

It used to be that anyone could be a backyard mechanic. Remember how you could tune up your car, adjust the carburetor, and diagnose trouble just by listening to the purr or rumble of your engine?

Not anymore. Today’s cars are loaded with high-tech electronics and computer components that baby-boomer parents and grandparents couldn’t even have imagined as youngsters. Higher-level mathematics, science, engineering and technology skills are now the norm for today’s automotive technicians and other skilled laborers.

Technology has gone mainstream. Our handheld calculators have more computing power than early space capsules. In fact, the computer technology in today’s vehicles is nearly 1,000 times more powerful than what guided the Apollo moon mission. (Autoalliance.org).

Even Ohio’s largest industry, agribusiness — what we used to call farming — is now dependent upon sophisticated satellite connections, computers and mathematics to figure acreage, tillage, fertilizer dispersal rates and a host of other calculations.

Our kids are wired to one another through MySpace or Facebook. They’ve even replaced talking for hours on the telephone with shooting text messages between cell phones in nanoseconds. E-mail is already passé with adolescents — YouTube is the newest medium of expressive communications.

Yet, for all the technological changes in our children’s everyday lives, many parents don’t realize that education must change to keep up.

For the reality is that education that was sufficient for parents isn’t what today’s students need. To compete and collaborate in a global marketplace, students will need advanced skills and knowledge that are far different from what adults learned in high school or college even 10 years ago.

Jobs and careers in the 21st century will demand even more technologically savvy students, creative and innovative thinkers, and young entrepreneurs who can communicate and collaborate across cultures, countries and continents.

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### Real-World Algebraic Problems

1. Will women ever get equal pay for equal work? By looking at data on median salaries of men and women over time, you can develop mathematical models to ask whether the median salaries will ever be the same during your lifetime. You can compare linear and exponential models, realize that different models will give different answers and develop a rationale for which model is more appropriate.

2. What kind of drug testing program should your school use? Your district is thinking about instituting a drug testing policy for athletes. Any drug test carries competing risks of false positives and false negatives, and more-accurate tests are usually more expensive. By analyzing the accuracy and cost of available drug tests and by considering perceptions of the extent of the drug problem with privacy concerns, you can propose a drug testing program that balances managing a problem, privacy concerns and cost.

3. Should you pay points to lower the interest rate of your new home’s mortgage? You are ready to buy a house, and you are comparing mortgage rates. By comparing the mortgage payments at the two interest rates, you can determine the payback period for the cost of the points. Then by considering how long you are likely to own the house and hold the mortgage, you can make a reasoned judgment about whether to pay points for the lower rate.
To meet these demands, Ohio educators and legislators have reviewed and updated core education requirements and established the “Ohio Core” to ensure students will be ready to succeed in the world they will face.

Under the new requirements, today's 8th graders – the Class of 2014 – will need an additional year of math and lab-based science to get a diploma.

In addition, these revised standards are a bit more challenging than in years past.

- Students will complete 20 credits that include more rigorous courses like Algebra II or its equivalent.
- Financial literacy instruction must be provided to all students before they earn a diploma.
- Science will involve questioning that is open-ended with an inquiry-based laboratory experience, asking students to engage in science to solve real-life problems.
- And even though it's still an elective, speaking a foreign language will be basic to anyone's education as our U.S. population continues to become more diverse.

To help parents, students, teachers and school administrators understand what's expected of our high school students, the Ohio Department of Education (ODE) created nine in-depth Web pages that explain the Ohio Core, provide answers to frequently asked questions, and give guidance to schools and districts about what courses should be offered. These can be found at www.ode.state.oh.us, keywords search: Ohio Core.

"The Ohio Core will give our high school students the kind of preparation they need to succeed in entry-level jobs, apprenticeships, military service and college," said Stan Heffner, associate superintendent of the Center for Curriculum and Assessment at ODE.

"There's an economic-workforce driver here, but there's also the individual empowerment of Ohio students to believe in themselves, find how their learning is relevant to their lives, and have a core knowledge-base that allows them to find solutions to complex issues when they become adults," Heffner said.

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**Ohio Core Requirements**

Starting July 1, 2010, students who enter ninth grade will need to complete 20 units to graduate from high school, including:

**English Language Arts** – four units

**Health** – one-half unit

**Mathematics** – four units, including one unit of Algebra II or its equivalent;

**Physical Education** – one-half unit

**Science** – three units, including inquiry-based laboratory experience in these subject areas or their equivalents:

- **Physical Sciences** – one unit
- **Life Sciences** – one unit

**Advanced Science** – one unit

- Chemistry, physics, or other physical science;
- Advanced biology or other life science;
- Astronomy, physical geology, or other earth or space science.

**Social Studies**, three units, including both:

- **American History**, one-half unit
- **American Government**, one-half unit

**Economics and Financial Literacy**: Each school will integrate the study of economics and financial literacy

**Electives**: Five units, any combination of foreign language, fine arts, business, career-technical education, family and consumer sciences, technology, agriculture
ODE mathematics expert Brad Findell agrees. "Not all students will need calculus or even pre-calculus, but we know geometry and introductory algebra are not enough," Findell said. "That's why we're saying students need Algebra II or its equivalent, meaning a course where they use algebraic skills and reasoning to solve complex, real-world problems." (See sidebar.)

Nancy Pistone, an ODE expert in the visual and performing arts curriculum, says students under Ohio's Core Curriculum will be required to complete two semesters or its equivalent of the fine arts in any of grades 7-12.

"The fine arts requirement in the Core helps us begin to highlight the visual and performing arts as equal partners with other subjects," Pistone said. "Whether they stand alone as design, drama, architecture, music, dance, sculpture, photography, painting and filmmaking courses – or are integrated with other disciplines – the modes of thought and dispositions the arts nurture will prepare students to meet economic, cultural, societal and personal challenges."

The Ohio Core isn't just about adding up credits, but rather, about ensuring that Ohio graduates are well-prepared to be successful, 21st-century global thinkers and competitors.

The Ohio Core will go beyond isolated courses and subjects to drive education toward an integrated, holistic approach for each child's pathway to the future. Great education molds great leaders, inventors and entrepreneurs. Through today's educational requirements, Ohio will continue its rich tradition and history of innovation and creativity for generations to come.

For more information on Ohio Core, visit www.ode.state.oh.us and type "Ohio Core" into the keyword search box.