



## Office of Instructional Services

### MEMORANDUM

TO: Board of Education  
CC: Sue Zurvalec, Superintendent  
Catherine Cost, Ed. D., Assistant Superintendent of Instructional Services  
FROM: Jon Manier, Executive Director of Instruction Services  
Kris Gekiere, Ph.D. Director Assessment and School Improvement  
RE: Preliminary Trimester Review and Recommendation of Evaluation Process  
DATE: January 25, 2011  
ATTMNT: High School Restructuring Committee Final Report, 11.7.2006  
Advanced Placement – 2007-08 to 2009-10 Detailed Report  
Advanced Placement Enrollment and Score Distribution 2007-10  
Advanced Placement “Credit” Relative to Length of Course 2007-10  
Learning Achievement Coalition-Oakland (LAC-O), Algebra Data Class of 2011 to 2013  
ACT Plan Longitudinal Data, 2004/05 through 2010/11  
English and Math HS Course Grade Frequency Distribution 2005-06 to 2009-10

#### **Background:**

In the fall of 2007, Farmington Public Schools implemented a trimester schedule for all high schools. In the simplest expression, the need for a schedule change was brought about by a desire to reduce budget expenditures while maintaining a model of scheduling which met the needs of students. The investigation and selection of trimesters as the scheduling structure was documented in a board report from November 7<sup>th</sup>, 2006 (see attachment A).

A High School Restructuring Committee of 46 members participated in work designed to meet the following charges:

1. *Review and summarize the research on best practices in high school reform and design; including high school schedules and structures that have proven effective for student success. Discuss and examine alternative high school schedules from other districts.*
2. *Review the proposed state requirements in conjunction with the Farmington graduation requirements and make recommendations to ensure alignment with state mandates while maintaining as much of Farmington’s graduation requirements as possible.*
3. *In keeping with the need to make significant budget reductions, make recommendations for a high school schedule that incorporates the research in best practice yet represents a staffing allocation equivalent to teachers teaching 6 of 7 classes in order to maintain as much of the current program as possible. If necessary, where the Master Agreement conflicts with the recommendations, make recommendations to address needed changes in the contract.*

The work of the High School Restructuring Committee included a review of four potential scheduling models: traditional, block, modified block and trimester. In the end, the Committee recommended the trimester model. The following information is taken from the board report referenced above and represents factors influencing the decision to move into a trimester structure:

*“The trimester model consistently rose to the top as the schedule of choice to examine more carefully. The trimester model can potentially save the district approximately \$2.3 million. Students attend each of five classes, each day for 12 weeks. Students do this for each of the three terms. The number of classes students can take per year (15) is the highest with this model which allows increased opportunities for student choice. The number of minutes per class is also the highest at 70 minutes per class, per day. Teachers maintain one planning period per day and they are in front of students 80% of the time. The trimester concept has also demonstrated it can increase student achievement because it can provide greater intervention time for students. In summary, the trimester model provides great cost savings to the district, provides the greatest number of minutes per class and allows the greatest number of opportunities for students as determined by the rubrics used throughout the decision making process.”*

The following list of characteristics associated with the trimester structure was also provided in the board report:

- *Significant financial savings*
- *More opportunities for students*
- *Maintain high quality of instruction & student achievement*
- *Be user friendly to all stake holders*
- *Meet new graduation requirements*
- *Include adequate instruction & teacher-student time*
- *Offer possibilities for acceleration/enrichment or interventions/reteaching*
- *Offer opportunities for out-of-classroom student learning experiences*

Currently, FPS is in the fourth year of the trimester schedule. Recent instability in school funding has greatly impacted our district. During the 2009-10 school year, significant budget reductions were recommended by administration and approved by the school board to be implemented during the current school year. Given our new “reality,” some school-community members have questioned the feasibility of the current trimester schedule. Similarly, the administration recognizes the need to periodically review instructional delivery practices to gauge how our practices impact student achievement. Hence, the necessity of a review of our current trimester study is warranted and necessary, to better understand the quality of implementation and potential impacts that trimester scheduling has had on our school community.

### **Trimester Review Process:**

In conjunction with Oakland Schools Research, Evaluation and Assessment Consultant, Lindson Feun and the FPS assessment office, a preliminary plan for the conducting the review of trimesters was crafted. The following is the essential outline of the review. Please know that this may need to be modified in the course of execution.

1. Review of literature related to the impact of a trimester structure on the academic achievement of students. The review may provide a context for the analysis of results gathered during our internal review.
2. Interview of other school districts that have recently reviewed and/or studied their trimester model seeking information in the following areas:
  - a. What methodology was used to study/review trimesters?
  - b. What tools (surveys/evaluations) were used to gather input from stakeholders?
  - c. What were the results of the study?
  - d. In hindsight, what questions should have been asked, as part of your study?

The intent of this review is to better understand which themes are prevalent related to trimester scheduling. Also, this review may provide comparison information which is useful in the event that specific recommendations related to modification of trimester scheduling are necessary. Finally, reviewing any survey tools may provide a “headstart” on development of items which will be used by FPS.

3. Develop specific questions for research, based both on the currently existing information as well as themes developed from the literature and peer district review. Example of current questions to be considered include:
  - a. To what extent has academic achievement changed during the implementation of trimesters? What are the factors that have impacted academic achievement during the implementation of trimesters?
  - b. To what extent are students, staff and families satisfied with the current trimester model? What recommendations for improvement/modification would stakeholders provide to the district?
  - c. What impact has the trimester model made on student’s ability to participate in extracurricular and enrichment activities?
  - d. What impact has the trimester made on the performance of staff members?

Within this step it may be useful to reconvene the original membership from the High School Restructuring committee to frame the questions for study. Essentially, this group may be asked to provide advice and counsel on the parameters of the review.

4. Gather specific, currently existing, data sets related mainly, but not exclusively, to the academic achievement of students both before and during the trimester schedule. The following represent sources of data which have been indentified as significant and necessary for review:
  - a. “Achievement” data
    1. Michigan Merit Examination
    2. ACT testing
    3. ACT Plan testing
    4. Core academic grade frequency distribution
    5. AP testing performance
    6. Graduation Rates
    7. Participation in post k-12 schooling
  - b. “Records”
    1. Student demographic composition

2. Staff attendance rates
3. Enrollment in “elective” and “advanced” coursework
4. Teacher workload, as indicated by number of “preps”
5. Class size patterns
6. Frequency of “repeat” coursework during the school year
7. Participation rates in extra-curricular and enrichment activities

During the course of completing the review, it may be necessary to modify the data sources. If this is done, there will be specific information provided as to why changes have been made.

5. Develop the evaluation tools which will be used to gather self-reported data from our school community. At this time, the plan calls for the following groups to be surveyed:
  - a. Students, through a representative sample, using a paper/pencil survey
  - b. Staff, complete population, using a paper/pencil survey
  - c. Parents, open survey, using an electronic survey tool, such as SurveyMonkey
6. Once the initial survey tools are developed, they will be “piloted/field tested” by members of the target groups. The intent of this is two-fold. First, to determine the appropriateness of items based on length, readability, clarity. Secondly, to determine if the survey tools will provide information which the school community will value. The goal is to create surveys that gather results which are both revealing and meaningful to the members of various groups. Because the issue of trimesters remains “charged” within our community, transparency of process will assist in development of a useful review.
7. Administer surveys and gather results (in the means suggested in item 3 above).
8. Present results of surveys to teams of stakeholders for analysis and review. Again, to ensure transparency, it is our intent to share the “raw” data with various stakeholders and if possible, engage them in the analysis of the data.

During this step, the members of the 2006 High School Restructuring Committee may be asked to assist in the review of data. In conducting the initial study of trimesters, they may be well equipped to better realize what the collected data truly says regarding trimester implementation at FPS.

9. Development of analysis statements and presentation of results to the Board of Education. Preliminarily, the following will be included in the final report:
  - a. Summary: Brief Overview of the report, explaining why a description of implementation has been undertaken and listing the major conclusions and recommendations to be found in the final section of the full report.
  - b. Context: Description of setting in which the program has been implemented focusing mainly on the administrative arrangements, personnel, and resources involved. It describes how the program was initiated, what it was supposed to do, and the resources available.

- c. Program goals and characteristics: Description of program’s intentions from reading program materials, talking with staff, observing activities, and collecting data
- d. The evaluation process: Description of the implementation evaluation itself – the choice of measures, the range of program activities examined, the sites studied, etc.
- e. Discussion of program implementation: Description of results and interpretations of implementation measures
- f. Conclusions, commendations, and recommendations
  - 1. Description of the outcomes of the evaluation activity
  - 2. Commendations (praising what is right about the program)
  - 3. Recommendations for the program change and development.

The following table is provided to help frame the estimated timelines and resources necessary to accomplish the study as presented. Please know that this table represents a projection and that both the resources and timelines may need to be adjusted in the course of the work.

<b>Step</b>	<b>Anticipated Completion Date</b>	<b>Lead Administrative Hours</b>	<b>Support Staff Hours</b>	<b>Other Resources</b>
1. Literature Review	Early May	20-30	4 – 6	
2. Interview other Districts	Mid February	10-12	1 – 2	
3. Develop Questions	Late February	5 – 9	0	
4. Gather Existing Data/Records	Mid March	70+	120-140	
5. Develop Evaluation Tools	Early April	10-12	1-2	
6. “Test” Evaluation Tools	Late April	10-15	1-2	10-20 Sub Days
7. Administer Evaluation Tools	Mid May	5-7	2-4	Scanning Documents, Staff Meeting Time
8. Analysis and Review of Results	Mid June	20-30	6-10	10-20 Sub Days and/or stipends
9. Development and Presentation of Final Report	Mid August	15-20	10-15	
<b>Totals</b>		<b>155-205</b>	<b>145-150</b>	

### **Preliminary Data Provided:**

While the intent of this board report is to build the basis for the more complete trimester review, the administration felt it necessary to begin sharing specific data which has already been gathered. While the analysis of these data sets does not represent a completed report, sharing this data does begin to formulate the final “picture” related to high school scheduling. Thus, administration offers the following:

- **Advanced Placement – 2007-08 to 2009-10 Detailed Report:** This report reflects the performance of students related to success on AP exams, segregated by school and from a district-wide lens. Also, the report provides a comparison of Farmington performance to state and national levels of success. (Attachment B)
- **Advanced Placement Enrollment and Score Distribution 2007-10:** This report displays two primary points: the change in enrollment in AP courses and the distribution of scores earning college “credit.” Data is presented by individual high schools. (Attachment C)
- **Advanced Placement “Credit” Relative to Length of Course 2007-10:** These tables display how students have performed on AP exams taking into consideration the length of time allotted in the trimester schedule to delivery of the curriculum. Courses are divided into three groups: 1 trimester, 2 trimester and 3 trimester. (Attachment D)
- **Learning Achievement Coalition-Oakland (LAC-O), Algebra Data Class of 2011 to 2013:** This report reflects FPS Algebra 1 data for the last several years. Specifically, the report speaks to when (grade level) students take Algebra 1 and how various No Child Left Behind subgroups perform in the Algebra 1 course. (Attachment E)
- **ACT Plan Longitudinal Data, 2004/05 through 2010/11:** This report displays 10<sup>th</sup> grade student performance on a standardized test, which correlates to both ACT performance, AP performance and performance in college coursework. (Attachment F)
- **Spring 2007, 2008, 2009 and 2010 11<sup>th</sup> Grade ACT Results:** This report displays the performance of 11<sup>th</sup> grade students on ACT testing over the last several years. This report includes information both on specific tests as well as compositing scoring. The results of Oakland County and State of Michigan testing are also represented in graphic form. (Attachment G)
- **Longitudinal High School Grade Data (English and Math):** This report presents a grade frequency distribution for specific high school courses during the time period from 2005-06 to 2009-10. The data displays the percentage of students enrolled in a specific course that have earned an A, B, C, D or F. The data is presented from a district perspective, representing all three comprehensive high schools. (Attachment H)

### **Initial Findings From Data Provided:**

The participation of students in Advanced Placement (AP) coursework is an important indicator of a district’s ability to provide both challenge and positioning for success in the future. The Michigan Department of Education provided the following guidance related to rigor within the curriculum:

### ***“Courses Matter***

- *The quality of courses completed in high school is a greater predictor of college success than test scores, class rank, or grade point average.*
- *Students are more likely to pass high-level courses than low-level courses. Thus, the research suggests that increasing access by all students to advanced academic course work will improve student academic achievement.*
- *Those who enter high school with test scores in the lowest quartile learn more in academically rigorous courses than they do in either the low-level vocational or general courses in which they are traditionally enrolled. Moreover, students enrolled in lower-level courses were more likely to earn a “D” or “F” in those courses despite their level of ability.*
- *When minority students are required to take rigorous college preparatory curricula, they rise to the challenge:  
For example, the San Jose Unified School District in California recently showed dramatic results after it required all students to take the A–G curriculum required for admission to the University of California system. Between 1998 and 2002, test scores of African American 11th graders increased nearly seven times as much as those of African American students across the state. What’s more, the more rigorous requirements have not resulted in the increase in dropout rates that some had predicted.*
- *Taking a rigorous high school curriculum that includes math, at least through Algebra II, cuts in half the gap in college completion rates between white students and African American and Latino students.” (Michigan Department of Education, 2006.)*

FPS holds a fundamental belief that having greater numbers of student participating and demonstrating success in rigorous coursework is a desirable condition. As such, the following preliminary conclusions can be drawn from analysis of AP participation and performance:

- From 2008 to 2010 (three years of data), more students have taken more AP tests district-wide (109 more students, taking 134 more tests). At Farmington High School, the opposite is true, with fewer students taking fewer tests (19 fewer students, taking 78 fewer tests). While not provided in this data set, it is a reasonable assumption to make that more students are indeed taking AP classes within FPS as it is not a-typical for students to be enrolled in an AP course and yet not take the test. Additionally, the largest and most successful group of AP test takers are 12<sup>th</sup> grade students.
- In all three high schools, the percentage of “economically disadvantaged” students taking AP exams has increased, leading to a district-wide increase of this percentage (8% of the total population of students taking AP exams). District-wide, more students have qualified for college credit through AP exams (50 more in 2010). Again, Farmington High School has shown a change counter to the district-wide trend, with fewer students earning credit through AP exams in 2010 (13 students).
- When comparing Farmington district-wide results to both state and national results, the district, as a whole, continues to demonstrate better performance. While the district-wide percentage of students qualifying for college credit declined 3% (71% of test takers in 2010) this percentage remained above both the state and national averages, 65.6% and 57.5% respectively.

- During an initial review, there does not appear to be a conclusive connection between the trimester model implementation and the percentage of students earning college “credit” on the AP exam. In 10 of the 17 courses reviewed, the highest percentage of students earning college “credit” occurred during a trimester model year. For the purpose of this comparison, the year 2007 (final year of semester scheduling) was utilized as a baseline. This performance pattern provided evidence to support the idea that classes occurring in a two trimester format do not place learners at a significant disadvantage on AP testing. The data does suggest that there exist specific issues which need to be investigated further, such as: the downward trend of Calc AB performance, the wide variance in European History and Physics performances.

The ACT Plan college readiness provided the capacity to predict student success in future college coursework. For example, 10<sup>th</sup> grade students who meet the ACT Plan benchmark score have a 50% chance of earning a “B” or better to the corresponding coursework in college. Said with specific Farmington data as an illustration, last year 81% of North Farmington High School 10<sup>th</sup> graders scored at or above benchmark on the ACT Plan English test. Thus, 50% of those students are predicted to earn a “B” or better in a college English course and 75% are predicted to earn a “C” or better.

In reviewing the ACT Plan data from 2004-05 to 2010-11, all three high schools have performed relatively consistently in all four areas assessed: English, math, reading and science. Harrison has experienced its peak performance years in English, math, reading and science during the trimester schedule. Farmington’s peak performance years in English, math and reading occurred with the trimester schedule was in place. Finally, North Farmington has experienced peak performance only in math during the trimester schedule. Having made these statements, the scoring fluctuates without a specific pattern for all schools in all subject areas. To extrapolate that either the semester or trimester schedule alone has impacted the student performance is likely not appropriate.

Data compiled for the Learning Achievement Coalition – Oakland (LAC-O) related to student performance in Algebra I points to areas of both concern and progress. The inclusion of this data, as well as grade distributions in algebra I, relates to the belief that Algebra is a “gatekeeper” for future educational success. The Final Report of the National Mathematics Advisory Panel, 2008, U.S. Department of Education spoke of the “gatekeeper” nature of Algebra:

*“...Algebra is a demonstrable gateway to later achievement. Students need it for any form of higher mathematics later in high school; moreover, research shows that completion of Algebra II correlates significantly with success in college and earnings from employment. In fact, students who complete Algebra II are more than twice as likely to graduate from college compared to students with less mathematical preparation.”*

The LAC-O data set is confined to students in 7<sup>th</sup> through 9<sup>th</sup> grade, and helps to frame progress made towards closing the “achievement gap.” In looking at participation of African American students in 9<sup>th</sup> grade algebra I classes from 2008 to 2010, there is an increase of 41 students district-wide. Similarly, over the same time period there is an increase of 98 students who are categorized as economically disadvantaged taking algebra in 9<sup>th</sup> grade. The increased graduation requirements as well as a shift in FPS demographics may likely be factors which impact the increased participation of these students.

Unfortunately, we continue to see African American and economically disadvantaged students lag behind other groups when comparing the percentages of student who earn a “C-“ or better in 9<sup>th</sup> grade

Algebra I. In response to concerns regarding student success rates in Algebra I at the 9<sup>th</sup> grade level, for the 2010-11 school year, the Algebra I class was revised and expanded to cover three trimesters. It is worthy to note that in looking at the performance of students in 8<sup>th</sup> grade taking Algebra I, African American students are experiencing success at a rate on par with other demographic groupings. Based on the examination of LAC-O data conducted to this point it would be premature to connect the achievement of students in algebra I to the trimester course system.

In examining the district-wide performance of students on the ACT both the number of student who took the text and average composite score have increased from spring of 2007 to spring of 2010. In 2006-07, 947 students participated while in 2009-10, 1061 participated, an increase of 114 students. Over the same time period, the average composite score increased from 20.5 to 21.1. Also from 2006-07 to 2009-10, the percentage of students composite scoring 28 and above has risen from 10.87% to 12.54% of the tested population.

In looking at subject specific results, all of the areas tested (English, math, science, writing, reading) have shown an improvement of the average score earned by students from 2007 to 2010. In comparing FPS results to Oakland County and state results over the same time period, FPS continues to outperform both groups. While this represents progress that we should be pleased with, to assign the responsibility for this success on the implementation of trimester scheduling would be premature. Factors such as increased rigor through graduation requirements, changes in curriculum and modification in teaching practices may have as much if not more impact than the scheduling format utilized.

The high school longitudinal grade data indicates students are earning grades in a similar distribution pattern from 2005-06 through 2009-10. For a few courses there are patterns suggesting improved performance: AP Statistics, Pre Calculus, and Essay Writing. Similarly, there are two courses in which the data displays a consistent increase in the percentage of student failure: Algebra I and Geometry. The concern regarding Algebra I data was also evident in the data provided in the LAC-O summary. In many instances the “strongest” performance occurred during a trimester year (13 courses of 22). At the current level of analysis, there does not exist a clear correlation between the advent of trimester scheduling and lowered student achievement as measured by longitudinal math and English grades.

#### **Interim Work Related to Scheduling:**

As part of the scheduling process for the upcoming year, 2011-12, the scheduling teams from each of the high schools are meeting to consider several ideas:

- Evaluating the success of having students between schools for courses
- Equalizing the class sizes for courses that have multiple sections
- Pre-planning for “repeat” sections in core curriculum areas where student failure occurs with a higher frequency.
- Maintaining similar teachers for students within specific core courses, examples: English 9 a/b, Algebra I a/b/c, Biology a/b.

When the work of the scheduling teams is complete, additional information will be shared with the board related the extent to which scheduling teams addressed these ideas.



**Office of Instructional Services**  
**MEMORANDUM**

TO: Board of Education Members  
CC: Sue Zurvalec, Superintendent  
FROM: Dr. Catherine Cost, Assistant Superintendent, Instructional Services  
Norma Jean Sass, Director, School Improvement & Student Achievement  
RE: High School Restructuring Committee Final Report  
DATE: November 7, 2006

**Background:**

In November 2005, the internal Budget Work Groups reported their findings to the Board of Education as part of the district's budget development planning process. The Budget Work Group reports were posted on the District's web site, disseminated to staff and parents and reviewed at a public forum on January 5, 2006. In the report, the High School Schedules and Program work group identified potential savings for various types of schedules for the Board's consideration in its budget development process.

Almost simultaneously, the State Board of Education adopted and mandated a new high school curriculum. Thus, given the potential impact on the District's high school graduation requirements and the need to thoroughly prepare for any changes in a high school schedule, the District's administrative budget committee recommended that any schedule changes and staff reductions not be implemented until the 2007-08 school year.

**Charge:**

Therefore, Sue Zurvalec, Superintendent, recommended that a broader based study committee be formed to address the need to reduce high school operational expenditures, and at the same time, review Farmington's graduation requirements in conjunction with state requirements for a high school curriculum.

Specifically, this committee shall:

1. Review and summarize the research on best practices in high school reform and design; including high school schedules and structures that have proven effective for student success. Discuss and examine alternative high school schedules from other districts.
2. Review the proposed state requirements in conjunction with the Farmington graduation requirements and make recommendations to ensure alignment with state mandates while maintaining as much of Farmington's graduation requirements as possible.

3. In keeping with the need to make significant budget reductions, make recommendations for a high school schedule that incorporates the research in best practice yet represents a staffing allocation equivalent to teachers teaching 6 of 7 classes in order to maintain as much of the current program as possible. If necessary, where the Master Agreement conflicts with the recommendations, make recommendations to address needed changes in the contract.

**Committee Members:**

Greg Ambrose, Cathy Armstrong, Diane Bauman, John Barrett, Jeremy Browning, Kurt Campbell, Hershey Card, Timothy Carruthers, Stacey Collins, Catherine Cost, Lauren Davies, Steven Deeb, Lisa Diponio, Nhu Do, Amy Donato, Jeffrey Dwyer, Emily Fisher, Kristin Gekiere, Kristine Gullen, Samir Haddad, Michelle Harris, Janet Holmes, Rande Horn, Aaron Johnson, Rick Jones, Susan Justice, Kevin Kansman, Bobby Kelly, Kevin Lashbrook, Mr. and Deb McCarthy, Joseph McInchak, Elizabeth Mosher, Jim Myers, Judi Mynsberge, Charlotte Rath, John Reed, Allyson Robinson, Jeremy Robinson, Paula Rohn, David Ruhland, Norma Jean Sass, Jeffrey Simpson, Cheryl Swaim, Mellita Taylor, David Workman, Sue Zurvalec (see page 8 for listing of committee members).

**Summary of Committee's Research and Activities:**

- A. **Summary of best practices in high school reform and design:** High-performing schools have a high-quality curriculum, as well as instruction that focus on rigor, relevance, relationships and reflective thought. In addition, critical elements for school success include: a strong faculty and staff, innovative school designs, emphasis on effective teaching and curricula, and flexibility in school governance. The data tells us that we need to establish a common core of rigorous standards for all. An aligned K-12 system must personalize the learning experiences for each student and schools need to connect students to the community. Data and feedback guide instructional decisions and professional learning communities support student achievement through collaboration and solution-based problem solving. We need to educate every child (and the whole child) to become successful, contributing citizens in a challenging world.
- B. **Summarize schedules reviewed:** Traditional, Block, Modified Block and Trimester schedules were researched and discussed. Each schedule was compared by number of classes per day for students and staff, minutes per class, classes per year, credits over four years, teacher preparation time per day, percent of teacher time in front of students and the potential dollars saved (see appendix A).

- C. **Input Received:** Throughout this process, the committee has sought feedback from a number of constituents. Staff members have had opportunities to discuss various schedules and highlight the pros and cons of each. In these discussions, it became very clear that a teacher teaching six of seven classes was not an option. Although this would have been a very cost-effective way to solve the scheduling dilemma, staff were adamant that this was not the schedule that would provide the most benefit for students. For example, two days a week, faculty members would not have a conference period. This would mean they would not be able to return phone calls, respond to emails, prepare for labs or provide additional help to students. There was also concern that with this schedule, teachers would have a greater case-load. In the eyes of the teachers and the administrators, this type of schedule was not a viable alternative. Additionally, staff members also voiced their opinions for retaining some portion within the schedule for a seminar period (similar to advantage, tutorial, SMART) as well as considering time for delayed starts/PLC time.

Each high school also gained input from their student body. When asked for their opinion, students were in overwhelming support of retaining the seminar time. They felt this not only gave them additional time to get help with teachers, but also take advantage of speakers and a chance to interact with other students. They also were very supportive of being able to preserve the ability to maintain a balance between electives and academic classes. In other words, they wanted to continue to be able to take four years of a foreign language and four years of a fine arts class.

Parent input was received at building level meetings, as well as a parent forum held on October 4, 2006. There is great support for maintaining our ability to provide electives. Over and over again, the parents commented on how important it was for our students to be well-rounded. The ability to offer many electives allows students to explore, excel and develop their talents. They also expressed the need for good communication and planning with both the students and the families as we make this change. Parents want to make sure that they are able to make appropriate course selections with this change in mind, especially with incoming freshman. Last of all, parents were interested in maintaining the high number of honors and AP offerings we currently provide.

Other community members also were part of many discussions. Input was gained that suggested we look at a schedule that allows for students of all ability levels to achieve. For example, interventions must be possible for a child who struggles or a child who excels. A schedule that allows this flexibility was important to this group. Other suggestions included looking at long-term results or statistics of whichever schedule was selected in addition to providing some sort of evaluation process in place

to assess the effectiveness of the new schedule (see appendix B for questions and answers that were addressed through the process).

- D. **Why the trimester schedule is the best choice:** The three models that provided a cost savings to the district (traditional, modified block and trimester) were then analyzed as to their strengths and challenges (see appendix C). A rubric was then developed that allowed the committee to rank each model. It was important that the criteria used in the rubric included the following needs of the district, students and parents:

*Significant financial savings*  
*More opportunities for students*  
*Maintain high quality of instruction & student achievement*  
*Be user friendly to all stake holders*  
*Meet new graduation requirements*  
*Include adequate instruction & teacher-student time*  
*Offer possibilities for acceleration/enrichment or interventions/reteaching*  
*Offer opportunities for out-of-classroom student learning experiences*

The trimester model consistently rose to the top as the schedule of choice. The trimester model can potentially save the district approximately \$2.3 million annually. Although this schedule did not save the district the most amount of money, it preserved the ability for students to take electives yet also meet the increased demands of the new graduation requirements. For example, under the trimester schedule, students can complete the 18.5 credits that will be needed (4 credits of math, 4 credits of English, 3 credits of science, 3 credits of social studies, 1.5 credits of PE/health, 1 credit of performing/visual arts, 2 credits of world language), and still have room to take music all four years or take a world language all four years or do both. Our community values the ability of our current schedule that allows students to explore their talents and develop their abilities through our strong elective program. Preserving this was very important and both the traditional and the modified block schedules did not allow for this, despite the fact they saved more money. Therefore, the trimester was the best option as it provided for great cost-savings, yet still allowed students to participate in a strong elective program.

Under the trimester schedule, students attend each of five classes, each day for 12 weeks. Students do this for each of the three terms. Each class will be about 70 minutes long, for a total of 350 minutes per week. With

our current block schedule, students are in class 47 minutes one day and 86 minutes two days a week for a total of 219 minutes per week. Under the trimester schedule, students will receive 4200 minutes of instruction per class per term (350 min/week x 12 weeks). Under our current block schedule, students receive 3942 minutes of instruction per class per semester (219 min/week x 18 weeks). This means under the trimester schedule, students will receive more instructional time for each class when compared to our current block schedule.

Teachers maintain one planning period per day and they are in front of students 80% of the time. This is where the cost-savings is generated. Having our faculty maximize their time in front of students will allow us to reduce the number of teachers at each high school. With the number of teachers who have already accepted the early retirement incentive, we hope the reductions will match the number of retirements.

The trimester concept has also increased student achievement in many of the districts where it has been adopted. The main reason is greater contact time with students can provide greater intervention time. Seeing the same students every day for 70 minutes, five days a week enables a teacher to get to know a student quickly. This then helps the teacher know which strategies to use with each child, in order to help all students be successful.

In the event, the student is unsuccessful in a class; the student will repeat the same class the very next term. For example, should a student not do well in geometry the first term, the student can retake it the second term. The student can then take the second part of the course during the third term and be right on track. Research has shown this is one of the most effective ways to increase student achievement.

Finally, the trimester schedule allows for students to accelerate their learning. Students in a trimester schedule have the ability to take three math courses within two years. The same would hold true for science, world language, social studies or English. Ultimately, it lends flexibility for students with a variety of needs (for samples schedules, see appendix D).

E. **Trimester concerns**: The largest challenge involves helping teachers and students transition from classes that meet every other day for about 90 minutes to classes that meet every day for about 70 minutes. Pacing, teaching strategies, content expectations and homework policies will all need to be addressed through curriculum mapping and professional development. Discussions with students will also need to be held, especially before they go through the 2007-08 course selection process.

A large concern exists within our parent population about retention if a gap occurs between classes. For example, a student may take Spanish 1A in the fall term but not take Spanish 1B until the spring. Research and experience shows this to be less of a problem than people believe it to be. Studies indicate that good teaching practice has to focus on long-term retention of learning. It is the depth of understanding not the time that impacts retention. Students retain approximately 85% of what they learn after four months, and about 80% of what they learn after eleven months (Semb, G.B., Ellis, J.A., & Araujo, J. (1993). Long term Memory for Knowledge Learned in School, Journal of Educational Psychology, 85, 305-316). Helping each student draw upon the knowledge they acquired in a previous term will be an essential for our teachers.

Trimester scheduling will mean more work for our counselors and the administrators who develop the master schedule. Preliminary reports indicate that our student scheduling software, Skyward, can easily accommodate a trimester schedule, although it will take more time to create. It will also take more time to ensure every student has a complete schedule.

**F. What current research says about trimester scheduling:** Trimester scheduling is quickly becoming more and more common. School districts in other states that have been using trimester scheduling for more than 10 years include: Madison, SD; Roseville, MN; Madison, CT; Sherwood, OR; White Salmon, WA; Forest City, IA; Westfield, IN; Longmount, CO; Vancouver, WA; East Pennsboro, PA; Neenah, WI; Skyline, CO; Hurst, TX; West Linn, OR; McMinnville, OR; Newberg, OR.

In Michigan, about 50 school districts have adopted trimester scheduling. These include Spring Lake, West Ottawa, East Kentwood, Okemos and Clarenceville. Considering trimester schedules or districts implementing them next year are Birmingham, Clintondale, Mt. Pleasant and Traverse City. Grosse Pointe is considering this for 2008-09.

With more and more graduation requirements and more budget restrictions, the trimester model is a favorable alternative to many of the current schedules. Colleges and universities (Stanford, Berkeley, University of Michigan, Michigan State, Central Michigan, Eastern Michigan and Western Michigan) actually prefer students who come from trimester schools as they have the opportunity to take a great number of classes, and thus are better prepared. Other high schools have found that trimesters will not negatively affect our students' ability to be accepted into the schools they desire (see appendix E).

G. **Recommendations/Next Steps:** Farmington Public Schools has a tradition of educational excellence and exemplary practices. It is the committee's unanimous opinion that all three high schools should adopt a trimester schedule. Furthermore, we suggest a yearly evaluation be done as a way to assess if the trimester schedule meets all of our needs.

Upon the approval of the Board, the following questions will need to be addressed:

How is the transition from middle school to high school? What do we need to do to prepare students?

How many terms per course?

What Staff Development activities do we need to provide?

How will seminar be integrated within the schedule?

How will report cards, progress reports and parent teacher conferences be scheduled?

How will graduation requirements be affected as we make this transition?

How will delayed starts/PLC time be built into the schedule?

How is it best to continue to communicate with teachers, parents and students?

What is the timeline to map the entire curriculum?

## High School Restructuring Committee Members

Ambrose, Greg	Physical Education Teacher – Farmington High School
Armstrong, Cathy	Assistant Principal & Art Director – Dunkel Middle School
Barrett, John	Principal – Farmington High School
Bauman, Diane	School & Community Service Director – Central Office
Browning, Jeremy	Parent – North Farmington High School
Campbell, Kurt	English Teacher – Farmington High
Card, Hershey	Technology Teacher – Farmington High
Carruthers, Timothy	English Teacher – North Farmington High
Cost, Catherine	Assistant Superintendent, Instructional Services – Central Office
Davies, Lauren	Student – North Farmington High School
Deeb, Steven	Art Teacher – North Farmington High
Diponio, Lisa	Foreign Language Teacher – North Farmington High
Do, Nhu	English Teacher – Farmington High School
Donato, Amy	Life Management Teacher – North Farmington High
Dwyer, Jeffrey	Science Teacher – Farmington High School
Fisher, Emily	2006 Graduate – Farmington High School
Gekiere, Kristin	Curriculum & Assessment Director – MTC
Gullen, Kristine	Oakland Schools Representative
Haddad, Samir	Instructional Equity & Support Executive Director – MTC
Harris, Michelle	ELA Coordinator – MTC
Holm, Janet	Parent – North Farmington High School
Horn, Rande	Career & Technology Education/Media Services Director - MTC
Johnson, Aaron	Assistant Principal – Farmington High
Jones, Rick	Principal – North Farmington High
Justice, Susan	Math Teacher – Harrison High
Kansman, Kevin	Social Studies Teacher – North Farmington High
Kelly, Bobby	Art Teacher – Harrison High
Lashbrook, Kevin	Science Teacher – Harrison High
McCarthy, Deb	Parent – Farmington High
McCarthy, William	Parent – Farmington High
McInchak, Joseph	Music Teacher – North Farmington High
Mosher, Elizabeth	Business Teacher – Farmington High
Myers, Jim	Principal – Harrison High School
Mynsberge, Judi	Parent – Farmington High
Rath, Charlotte	Student – North Farmington High
Reed, John	Special Education Teacher – Harrison High
Robinson, Allyson	Language Arts Teacher – Harrison High
Robinson, Jeremy	Social Studies Teacher – Harrison High
Rohn, Paula	Math Teacher – Farmington High
Ruhland, David	Assistant Superintendent, HR/Legal Services – Central Office
Sass, Norma Jean	School Improvement & Student Achievement Director - MTC
Simpson, Jeffrey	Math Teacher – North Farmington High
Swaim, Cheryl	Parent – Harrison High School
Taylor, Mellita	Parent – North Farmington High
Workman, David	FEA President – MEA Office
Zurvalec, Sue	Superintendent

## Restructuring Matrix - Appendix A

Model	Number of Classes Per Day	Number of Minutes Per Class	Number of Classes Per Year	Number of Credits Earned in 4 Years	Teacher Prep Per Day	% of Teacher Time in Front of Students	Potential \$ Saved	Can The Schedule Be Flexible Yes/No? How
Traditional	S : 6 T : 5/6	D : 55 mins W : 275 mins	12	24	1	83%	3 million	No
Modified Block	S : 6 T : 5/6	D ≈ 55 88 W : 253	12	24	1	85%	3 million	Yes, but limited
Trimester	S : 5 T : 4/5	D : 70 min W : 350 min	15	30	1	80%	2.3 million	Yes, but limited
Block	S : 7 + SMART T : 6/8	D : 47/86 W : 219	14	28	1	73%	Ø	Very

S: Student

T: Teach

D: Daily

W: Weekly



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## Trimester Questions and Answers

### How would we determine the length of each class?

Generally, a current year long class would be 2 terms and a current semester course would be 1 term. Music would be all 3 terms because of the performance element. Advanced Placement courses would follow the current pattern. If they are currently double-blocked then they would be 3 terms. Year long AP courses would be 2 terms. There might be sessions scheduled for additional test preparation.

### Will the trimester schedule allow students to earn the necessary credits for graduation?

We currently require students to earn 27 credits to graduate. On the trimester there is the opportunity to earn 30 credits. (Students can earn 7.5 per year)

### What will happen to next year's seniors? Will they have enough credits to graduate?

If there is no change to graduation requirements, next year's seniors will have more than enough credits to graduate. If the graduation committee recommends an increase, then student credits would be pro-rated to reflect the change in schedule.

### What if my student is scheduled for things like Math or Foreign Language in the 1st and the 3rd term? What about retention of information?

Research shows that most of the loss of information occurs in a very short period of time and then plateaus. The other issue regarding retention deals with whether or not students have developed a deep level of understanding. Real learning is measured by a student's ability to both understand and apply what they have learned.

### What are the budget implications?

We would save approximately 2.3 million dollars annually due to reductions in teaching staff.

### How will this affect the transition students need to make between middle school and high school?

The schools that have already addressed this said that they did not notice any change in how students made the transition. Many did re-examine the middle school schedule and had in fact changed or were in the process of also changing middle school to a trimester.

### Is there a need for staff development to effectively implement this change?

The change from 90 minutes to 70 minutes should be an easy one. The real need is to carefully identify the "essential learnings" found in each course. We are already doing this. We are examining what is taught in each course K-12. In addition, a committee will be formed to examine best instructional practice as it applies to the trimester.

### What support will there be for students who are struggling? What happens if a student course? Are there opportunities for remediation?

Students who fail a course would immediately be rescheduled into the course again. The goal is for students to get the help and support they need on entry level courses before moving on to more advanced courses. We are also looking at other ways to support our struggling students. This could include

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support classes in math and reading. The real benefit to the trimester is that we do have more all students achieve a high level of success.

**Would students be getting homework in all of their classes?**

They might. One thing to keep in mind though is that students are only enrolled in five courses. The recommendation would be that only three of those should be core courses. This should help them to focus and learn to balance their time.

**Does this mean students would take finals three times a year instead of two?**

Yes, it would also mean that progress reports would be sent more often.

**What has been the feedback from districts that have been on this for some time?**

Spring Lake reported satisfaction from all stakeholders. In addition, they are reporting increased achievement on both ACT and MEAP.

**Is there any evidence that this improves relationships? Why is this important?**

There is anecdotal evidence. It is important because research shows a direct correlation between relationships between students and teachers and student achievement.

**How will universities view the transcripts of students learning in the trimester?**

The admissions staff at colleges and universities is trained to look at different types of schedules. They work with high school counselors and are more concerned with the actual courses a student takes with the type of schedule. They are looking to see students challenge themselves. No student is disadvantaged by a move to the trimester schedule.

**What opportunities are there for students to accelerate their learning?**

Students might be able to begin courses early. For example, a student might complete Spanish in the first 2 terms and begin Spanish 3A during the third term. This would be true in other areas as well.

**Would this schedule do away with Smart, Seminar, and Advantage?**

Some schools have maintained an hour like this, while others have decided not to have one. This is a decision that still needs further discussion.

**How will this affect those students that attend the technical school?**

The technical schools are open to working with the district to meet the needs of our students.

**What happens to students who transfer in from districts/schools that are on semester?**

Counselors will work to adjust the credits to see that all students are given the credit they have earned.

**What can I do as a parent to help my student adjust to the trimester?**

As with everything, good communication is a key element to student success. The best thing to do is to stay informed. Understand that the term will move quickly and so it is important that students complete their assignments. It is also important that they not miss class unless it is truly necessary. You should help students as they budget their time and make good decisions. This should be viewed as an opportunity for students to develop their time-management skills.



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## More Questions on the Trimester

**(Caveat)** The answers to the following questions are based on our best knowledge at this time. Please understand that some answers may change based on further discussions, experience with the trimester, class selections/schedule development, calendar development and other factors.

**Struggling Students: The general questions regarding struggling students dealt with whether or not they could access the material in the shorter period of time (in terms of weeks).**

The trimester will help struggling students because it will allow for earlier identification, more opportunities for remediation and increased interventions.

**Homework: Questions dealt with the amount of homework students would be expected to do with five classes each day. Concerns were that students would not be able to do all of the homework assigned for each class.**

Part of the restructuring process will be to examine the role homework plays in student learning and how to address current homework practices to take into account the fact that students will attend each class daily.

**Foreign Language: Questions were generally about scheduling and concerns about whether students would suffer greater loss of learning if classes were scheduled with a break in-between.**

Research shows that meeting daily is extremely beneficial for language acquisition. Additionally, the trimester will create more opportunities for students to continue to study foreign language.

**Tutorial/Seminar: This was a common question by staff, parents and students. The concern was whether or not this would be continued so that their would be enough opportunity for students to get help when it was needed.**

There was a strong commitment made to incorporate this into the trimester schedule. There are models currently being used that incorporate this effectively.

**There were also questions about whether students would be getting the same amount of instruction.**

The trimester model actually has more hours/minutes than the current schedule.

**Questions regarding AP dealt with which courses would meet for all three terms and whether the requirements of the tests could be met.**

AP course would be given the same amount of time they are currently given. One year would be two terms and courses that are double-blocked would run all three terms. We are also investigating a course that would meet during the third term and be devoted to test preparation and practice.

**How would co curricular activities be affected?**

There would be a benefit in that the seasons would match up so eligibility would be easier to

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**Even More Questions on the Trimester....**

**(Caveat)** The answers to the following questions are based on our best knowledge at this time. Please understand that some answers may change based on further discussions, experience with the trimester, class selections/schedule development, calendar development and other factors.

**How will students be able to carry all of their books when they have all of their classes every day?**

Students will need to organize what they carry based on where their classes and lockers are situated. Individual problems will be addressed on an individual basis by building administration.

**Is the savings from having fewer teachers? How many teachers will be reduced?**

Yes. We anticipate approximately 7 per building. Many teachers at the high school level have already made the decision to leave based on last year's buyout.

**Will counselors work with students to help them to plan and build schedules that meet their needs?**

Yes. Counselors will provide guidance and help students to select courses that meet the graduation requirements and student interest and ability.

**I do not want my students academic classes to be taken during first and then third term. Will you guarantee that this will not occur?**

No. While an effort will be made to address these concerns and honor requests there will be no guarantees. Individual concerns will be addressed on an individual basis and decisions will be made in the best interest of student achievement.

**Would students be able to schedule their academic classes during terms that they are not involved with an extra-curricular activity?**

There would be no guarantee of this.

**I am concerned that students will be closed out of classes and that scheduling will be a nightmare?**

Counselors will receive additional training in scheduling in the trimester. With an extra term there will be an extra opportunity for students to get some of the classes they want.

Every effort will be made to try to avoid conflicts in the schedule.

**How much say will parents and students have on the placement of classes?**

Counselors and administrators build the schedule to accommodate student requests and to minimize conflicts between courses. This will continue to be the case.

**Have other cost reduction measures been considered?**

Yes, there were many budget committees formed last year and there are additional ones this year that continue to monitor and attempt to reduce spending throughout the district.

**You acknowledge a retention issue for courses split between terms 1 and 3. How will it with?**

Research and experience (SpringLake) show this to be less of a problem than people believe. Teachers will receive more training in working for mastery of learning. Studies indicate that practice has to focus on long-term retention of learning. It is the depth of understanding not time that impacts retention. [Students retain approximately 85% of what they learn after 4 months, and what they learn after 11 months. (Semb, G.B., Eills, J.A., & Araujo, J. (1993). Long term Mem

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Knowledge Learned in School, Journal of Educational Psychology, 85, 305-316.}}

**I am concerned about endowing music as a "mega" course with three terms each year this limit the other electives a student will be able to take?**

Requirements for classes in core subject areas will need to be met first and then students will need to make choices.

**Will going to the trimester have any affect on the variety of different courses offered?**  
It could, but what will probably have more of an impact on the courses offered will be the new standards and content expectations. These will affect the rigor of all of our courses.

**Will the change negatively affect seniors and their ability to graduate with the courses need? What about the rest of the student body?**

No. Students will be able to get the necessary credits at all levels.

**Will this schedule meet State Guidelines? Yes.**

**Is it reasonable to expect a freshman to figure out an entire four year schedule when they know what they might want to do later in life?**

Students should begin with an approximation of what they want to achieve over the four year; will certainly be flexible and counselors will continue to help students make appropriate choices.

**Will seniors get first choice of classes?**

Seniors already go through registration first. They are followed by the juniors, sophomores, and freshmen.

**Will the reduction of staff affect the quality of instruction?**

No. We will continue to deliver instruction according to best practice based on research.

**Are teachers really trained for this implementation?**

Teachers received training to teaching in longer blocks of time before we initially moved to this. Through our professional learning communities and on-going staff development we continue to increase the capacity of our teaching staff to reach all students.

**How many classes have we looked at in the curriculum so that everyone is teaching the same thing? We are continuing to evaluate the taught curriculum and to develop common assessments to assure equity.**

**Will you maintain professional learning communities? When will the teachers meet?**

Yes. When they meet will be subject to contract negotiations.

**Please keep the number of students per class to 25.**

Class size is a negotiated issue. One of the reasons we are recommending the trimester is to keep class sizes from increasing.

**Do teachers prefer to see students daily?**

Math and foreign language teachers have said it is beneficial. In addition, most teachers are in favor of very short blocks of time. The trimester allows for daily contact and longer blocks of time.

**Why not do a modified block? Why not have teachers teach 6 out of 7 classes?**

The committee evaluated all possible schedules and is recommending the trimester based on its findings.

**I've heard the advantages of the trimester, are there any disadvantages?**

The committee found few potential disadvantages (gap between courses, homework, schedule) but felt comfortable that these could be solved and that they were outweighed by the advantages.

**Please explain how the trimester saves money? How is the calculation of teacher time?**

Each teacher teaches 4 out of 5 classes each term. This translates to 12 classes a year instead of 15.

**What is the cost of implementing the trimester?**

There should be no additional cost for implementation.

**Will we cut back on business and physical education requirements?**

No.

**What about the use of a 0 hour for extra fine arts or science labs?**

This is a negotiated item.

**I'm more interested in core classes, why not cut back on the electives?**

We offer a comprehensive program of both core classes and electives to meet the needs of all students.

**How about opening up the high schools to be schools of choice so that all students can**

**school they want?**

The Board has policies on this issue.

**What will a school do if they have only 8-10 students wanting to take AP French?**

Generally, classes only run with a minimum enrollment of 15. Often students are grouped with other students at the same level. Building administrators determine this based on staffing availability and need. This is the current schedule.

**Have any schools tried the trimester and moved away from it because it was unsuccessful?**

Not that we know of. Some colleges have moved from trimester to semester but that was to get out earlier in the summer to be competitive in the summer job market.

**When you talk about each term being 60 days does that only include M-F?**

Yes, it is only a count of instructional days.

**Will students still do AP testing in May?**

Yes, that is a national test and dates are determined by The College Board. We are currently having a test prep course in the third term to address concerns for students who only have the test during terms 1 and 2.

**How will you guarantee that my student will not be overloaded with homework if they take AP classes? I am concerned that they will have homework every night in all of the AP classes.**

This question and others like it will be addressed through professional development. Plans for professional development would begin upon Board approval. Initial training could then begin this spring and continue into the summer.

**Students will be faced with more teaching styles—how will this issue be handled?**

The district is committed to using research and training teachers to use best practice to enhance learning. We will continue to provide professional development to ensure the quality of each teacher's experience.

**We received many questions on issues regarding calendar concerns, such as vacation days, professional development days/delayed starts, daily start and end times, and parent-teacher conferences. These will be answered together.**

These are contractual questions that cannot be answered at this time. These are questions that will be considered and answered as a new contract is developed.

**Appendix C**  
**High School Restructuring-Meeting Notes from June 7, 2006**

*The committee was asked to examine each schedule in groups. They listed all strengths and weaknesses and then continued to share out the top strengths and weaknesses. That information is listed below. Items marked with a + are those that came up multiple times.*

**Traditional (Schedule where students take 6 classes and teachers teach 5)**

<b>Strengths</b>	<b>Challenges</b>
Daily contact with students + Easier to build schedule	Reduces choice
Parents/community familiar with the model	<u>May not</u> allow for "best" practice
Consistency of schedule a plus for many students	Cuts staff only in electives
Overall semester minutes are more than other two	<u>May</u> affect quality of lesson plans and delivery of instruction
	Deletes electives
	Limited opportunity to repeat classes

**Modified Block (3 traditional days and two blocked days) (5 classes for teachers and 6 for students)**

<b>Strengths</b>	<b>Challenges</b>
Having a break in the schedule	Regarding teachers/no conference each day +
Saves the most money	Fewer choices +
Having a tutorial +	Building schedules
Parents/students "somewhat" familiar	Less prep time for teachers may affect the quality of instruction
Longer class time on <b>some</b> days	Deletes electives/opportunities
	Less instructional time

**Trimester (Students take 5 classes/teachers teacher 4) Three semester per year**

<b>Strengths</b>	<b>Challenges</b>
Maintains programs	
Daily student contact	12 weeks plus summer off from last class
Ability to repeat classes and stay on track for graduation	Scheduling AP, fine arts and yearbook
Length of the class period (long enough for labs, in-depth discussions)	Huge change/would be an adjustment for everyone
Ability to "re-bundle" courses to meet the new high school graduation requirements	
Less conflict in the Master Schedule	OTC and transfer students
30 credits in 4 years	Covering material faster
Better teacher-student relationships because of everyday contact	If too much of the staff feel they need to have their class all 3 semesters-flexibility

	and electives will be limited
Easier to accumulate and recover credit	Student homework load from 18 weeks to 12-13 weeks
Students would only have a 5 class load instead of 6 or 7	
Improved teaching quality because of less class load and prep time daily	
More Electives	
Parallels sports seasons	
Possibilities for acceleration and remediation	

**Appendix D**

**High School Restructuring**

**Parent Forum  
October 4, 2006**

**Sample Student Schedules**

### Sample Student Schedules: Grade 9

College Bound	60 Days	60 Days	60 Days
Block 1	English 9A	English 9B	Spanish IB
Block 2	Spanish IA	Sci. 9A	Sci. 9B
Block 3	W. History A	Com. Maint./ Network Tech.	W. History B
Block 4	Fundamental Design	Drawing	Visual Image Technology
Block 5	PE	Algebra IA	Algebra IB <sup>14</sup>

### Sample Student Schedules: Grade 10

College Bound	60 Days	60 Days	60 Days
Block 1	English 10A	English 10B	Spanish IIB
Block 2	Spanish IIA	Biology A	Biology B
Block 3	Geom. A	Geom. B	U.S. Hist. B
Block 4	U.S. Hist. A	PE	Accounting
Block 5	Drama	Ceramics	Speech <sup>15</sup>

### Sample Student Schedules: Grade 11

College Bound	60 Days	60 Days	60 Days
Block 1	English 11A	English 11B	Spanish IIIB
Block 2	SS Elect.	SS Elect.	Computer Graphics
Block 3	Spanish IIIA	Chem. A	Chem. B
Block 4	Jewelry I	Health	Painting
Block 5	Foods	Algebra IIA	Algebra IIB <sup>16</sup>

### Sample Student Schedules: Grade 12

College Bound	60 Days	60 Days	60 Days
Block 1	Creative Writing	Shakespeare	Economics
Block 2	Spanish IVA	Spanish IVB	Marketing
Block 3	AP Environmental Science	AP Environmental Science	Interior Design
Block 4	Jewelry II	Psychology	Video Directing
Block 5	U.S. Gov't.	Pre. Calc. A	Pre. Calc. B <sup>17</sup>

### Sample Student Schedules: Grade 9

Resource	60 Days	60 Days	60 Days
Block 1	English 9A	English 9B	English 9C
Block 2	Earth Sci. A	Earth Sci. B	Fundamental Design
Block 3	W. Hist. A	PE	W. Hist. B
Block 4	Resource	Resource	Resource
Block 5	Ind. Math I	Ind. Math II	Foods

### Sample Student Schedules: Grade 10

Resource	60 Days	60 Days	60 Days
Block 1	English 10A	English 10B	Ceramics 2
Block 2	Ceramics 1	Biology A	Biology B
Block 3	Algebra A	Algebra B	Computer Graphics
Block 4	Resource	Resource	Resource
Block 5	U.S. Hist. A	Comp. Maint./ Network Tech.	U.S. Hist. B

### Sample Student Schedules: Grade 11

Resource	60 Days	60 Days	60 Days
Block 1	English 11A	English 11B	PE
Block 2	SS Elective	SS Elective	Painting
Block 3	Speech	Environmental Science	Environmental Science
Block 4	Resource	Resource	Resource
Block 5	Health	Phys. Geom. A	Phys. Geom. B

### Sample Student Schedules: Grade 12

Resource	60 Days	60 Days	60 Days
Block 1	Creative Writing	Science Fiction	Economics
Block 2	Marketing/ Merchandising	Astronomy	PE
Block 3	Video Image Technology	Sports & Entertainment	Business Internship
Block 4	Resource	Resource	Resource
Block 5	U.S. Gov't	Inter. Alg. 2 B	Inter. Alg. 2 B

## Credit Recovery Example: Grade 9

College Bound Failed a Course	60 Days	60 Days	60 Days
Block 1	English 9A	English 9B	Spanish IB
Block 2	Spanish IA	Sci. 9A	Sci. 9B
Block 3	W. History A	Comp. Tech.	W. History B
Block 4	Fundamental Design	Drawing	Video Image Tech
Block 5	PE	Algebra IA	Oops! 50% 26

## Credit Recovery Example: Grade 10

College Bound Failed a Course	60 Days	60 Days	60 Days
Block 1	English 10A	English 10B	Spanish IIB
Block 2	Spanish IIA	Biology A	Biology B
Block 3	Alg.1 B	Geom. A	Geom. B
Block 4	U.S. Hist. A	PE	U.S. Hist. B
Block 5	Drama	Ceramics	Speech

Back on track!

## Acceleration Example: Grade 9

College Bound→ AP	60 Days	60 Days	60 Days
Block 1	English 9A	English 9B	Spanish IB
Block 2	Spanish IA	Earth Sci. 9A	Earth Sci. 9B
Block 3	W. History A	Comp. Tech.	W. History B
Block 4	Fundamental Design	Drawing	PE
Block 5	Algebra IA	<del>100%</del> IB	<del>Geom</del> A

28

## Acceleration Example: Grade 10

College Bound→ AP	60 Days	60 Days	60 Days
Block 1	English 10A	English 10B	Spanish IIB
Block 2	Spanish IIA	Biology A	Biology B
Block 3	Geom. B	Alg. II A	Alg. II B
Block 4	U.S. Hist. A	PE	U.S. Hist. B
Block 5	Drama	Ceramics	Speech

Now this student is on the calculus track!

29

### Sample Student Schedules: Grade 9

AP/ Music	60 Days	60 Days	60 Days
Block 1	H. English 9A	H. English 9B	Spanish IIB
Block 2	Spanish IIA	H. Biology A	H. Biology B
Block 3	W. Hist. A	Comp. Maint./ Network Tech.	W. Hist. B
Block 4	Band/Elective	Band/Elective	Band/Elective
Block 5	PE	H. Geom. A	H. Geom. B

30

### Sample Student Schedules: Grade 10

AP/ Music	60 Days	60 Days	60 Days
Block 1	H. English 10A	H. English 10B	Spanish IIIB
Block 2	Spanish IIIA	H. Chem. A	H. Chem. B
Block 3	H. Alg. 2 A	H. Alg. 2 B	Speech
Block 4	U.S. History AP	U.S. History AP	U.S. History AP
Block 5	Band/Elective	Band/Elective	Band/Elective

31

### Sample Student Schedules: Grade 11

AP/ Music	60 Days	60 Days	60 Days
Block 1	AP Eng. Lang.	AP Eng. Lang.	H. Spanish IVB
Block 2	AP U.S. Gov't.	AP U.S. Gov't.	Health
Block 3	H. Spanish IVA	H. Physics A	H. Physics B
Block 4	Band/Elective	Band/Elective	Band/Elective
Block 5	Economics	H. Pre. Calc. A	H. Pre. Calc. B

32

### Sample Student Schedules: Grade 12

AP/ Music	60 Days	60 Days	60 Days
Block 1	AP Eng. Lit.	AP Eng. Lit.	Elective
Block 2	AP Spanish	AP Spanish	Elective
Block 3	AP Biology	AP Biology	AP Biology
Block 4	Band/Elective	Band/Elective	Band/Elective
Block 5	AP Calc.	AP Calc.	AP Calc.

33

Note: Short 1 PE



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## Research Brief

### Trimester Schedule

**Question:** Why do a trimester schedule?

**Summary of Findings:** With the advent of block scheduling, many high schools conducted research on utilizing that plan in a trimester format. There appeared to be three issues that most schools faced: How to provide substantive instructional time that was not fragmented?; How does the school climate contribute positively to students' learning?; and How to provide the appropriate amount of instructional time so that each student can learn in the best ways for him/her? *Breaking Ranks* suggested that: curriculum should offer essential knowledge that makes connections to real life; instructional strategies should actively engage students in their learning; the environment should be receptive to the learners and educators; time and space be reexamined and utilized to best meet the needs of the students; and all stakeholders should be accountable for assessment of the instructional program.

#### **Major Findings and Conclusions:**

##### General Characteristics

1. 12 week trimesters-3 per school year
2. 5 classes per day for one trimester, referred to as the 3X5 schedule
3. 2 official grading periods per trimester at the 6<sup>th</sup> and 12<sup>th</sup> weeks
4. Teachers teach 4 classes per trimester.
5. 70-72 minute periods of instructional time
6. Study halls appeared to have been eliminated

##### Advantages:

1. Students can take more electives
2. Students can take different types of classes than they might have ordinarily taken
3. Homework loads are lighter
4. Students have more time to devote in depth and quality time to a fewer number of subjects
5. Students are more willing to take a challenging 12 week course than they are in a semester structure
6. If a student fails a class, there are more opportunities to repeat it and still graduate on time.
7. Increased graduation requirements
8. There are fewer class changes, which makes for fewer potential disruptions and discipline problems that often arise from students moving around a facility
9. Teachers have fewer preparations each trimester
10. Teachers have fewer additional assigned duties
11. Teachers have more daily planning time of 70-72 minutes
12. Curriculum is reevaluated and realigned to what is considered important for the students to know
13. Creation of new courses
14. More time for comprehensive instruction and strategies



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### Research Brief

#### Disadvantages:

1. Teaching strategies may not change from a straight lecture format
2. Flexibility needs to be built into the schedule to address course needs in areas such as music and foreign language
3. Three master schedules need to be developed each year
4. Teachers may initially have more preparations over the course of the year, especially if they are teaching newly developed curriculum

#### **Online Resources:**

- A Colorado School's Un-Rocky Road to Trimesters  
An overview of the transition from a traditional calendar to that of trimesters is chronicled in this article. Its structure and benefits are also described.  
[http://www.ascd.org/cms/objectlib/ascdframeset/index.cfm?publication=http://www.ascd.org/publications/ed\\_lead/199511/abstracts.html](http://www.ascd.org/cms/objectlib/ascdframeset/index.cfm?publication=http://www.ascd.org/publications/ed_lead/199511/abstracts.html)
- Better Flexibility, Tighter Curriculum Available in a Trimester Plan  
This is a description of considerations that were taken into account when examining the trimester schedule. It cites advantages and disadvantages of this type of schedule.  
[http://www.aasa.org/publications/sa/1998\\_05/focMiller.htm](http://www.aasa.org/publications/sa/1998_05/focMiller.htm)
- *Breaking Ranks: A framework for secondary reform project*  
A description of the process used in Vermont in conjunction with the Northeast and Islands Regional Education Lab and Brown University is offered.  
[http://www.lab.brown.edu/programs/lab2000/secondary\\_breaking.shtml#Data](http://www.lab.brown.edu/programs/lab2000/secondary_breaking.shtml#Data)
- Brown, M. H. *Breaking Ranks: Blueprints for futures schools*  
This article provides the major themes that are present in *Breaking Ranks*. There is also a description of the roles that the principals, students, and teachers should play in the 21<sup>st</sup> century.  
[http://alliance.ed.uiuc.edu/email/list-archive/IAES\\_1996-97\\_119.html](http://alliance.ed.uiuc.edu/email/list-archive/IAES_1996-97_119.html)
- Can Schools Really Change?  
How meaningful is change is the theme that runs throughout this article. This could provide a strong focus for schools that want to implement deep and meaningful change.  
<http://www.edweek.org/ew/ewstory.cfm?slug=21smith.h20>
- Five Day Trimester  
A very brief overview of a five period trimester is described here.  
<http://www.wdpsd.com/HighSchool2/fiveperiodday.htm>



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## Research Brief

- **Roseville Area Schools**  
A description of the 3X5 schedule that was to be implemented at this high school along with the types of courses and credits that could be earned are previewed.  
<http://www.roseville.k12.mn.us/info/scheduling.cfm>
- **School Schedules**  
This lists all of the public high schools in Utah and the type of schedule each has.  
[http://www.aasa.org/publications/sa/1998\\_05/focMiller.htm](http://www.aasa.org/publications/sa/1998_05/focMiller.htm)  
  
**Southridge High School and the Trimester Schedule**  
An in-depth description of the process used by this high school when studying a change in schedules is described here. It also lists some excellent advantages and concerns that were considered when deciding to change to a trimester system.  
[www.nwrel.org/scpd/sslc/descriptions/southridge/pdf/trimester\\_scheduling.pdf](http://www.nwrel.org/scpd/sslc/descriptions/southridge/pdf/trimester_scheduling.pdf)
- **The Power of Innovative Scheduling**  
This article provides an extensive overview of different scheduling options in elementary through high school. It includes a description of the trimester system, along with a sample schedule.  
[http://www.ascd.org/cms/objectlib/ascdframeset/index.cfm?publication=http://www.ascd.org/publications/ed\\_lead/199511/toc.html](http://www.ascd.org/cms/objectlib/ascdframeset/index.cfm?publication=http://www.ascd.org/publications/ed_lead/199511/toc.html)
- **Trimester Schedule at Madison High School**  
An overview of a 5 period, 72 minute day is described along with benefits of a trimester system.  
[http://www.madison.k12.sd.us/superintendent/trimester\\_schedule\\_at\\_madison\\_hi.htm](http://www.madison.k12.sd.us/superintendent/trimester_schedule_at_madison_hi.htm)

Submitted By: Dr. Karen Walker, University of Maine, Farmington

<http://www.principalspartnership.com/>

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**ADVANCED PLACEMENT – 2007-08 TO 2009-10 DETAILED REPORT**

	F.H.S.			H.H.S.			N.F.H.S.			District		
	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10
<b>Economically Disadvantaged</b>	9%	10%	17%	18%	20%	23%	7%	9%	11%	11%	16%	19%
<b>Number of Students Taking Advanced Placement Exams</b>	275	247	256	193	202	215	221	300	327	689	749	798
<b>Total Grades Reported</b>	509	414	431	307	294	347	399	536	571	1215	1244	1349
<b>Percentage of Exams Passed</b>	69% Passed	74% Passed	72% Passed	62% Passed	67% Passed	60% Passed	81% Passed	76% Passed	71% Passed	71% Passed	74% Passed	68% Passed
<b>*A.P. Equity and Excellence Percentage Graduating Class of 2008, 2009 &amp; 2010</b>	34.1%	34.9%	34.4%	27.6%	28.4%	19.4%	95.0%	38.6%	41.4%	NA		
<b>Average – Exams Per Test Taker</b>	1.9	1.7	1.7	1.6	1.5	1.6	1.8	1.8	1.8	1.8	1.7	1.7
<b>Number of Students Qualifying for College Credit on At Least One Exam</b>	199	184	186	127	142	140	187	237	244	513	563	563
<b>Percent of Students Qualifying</b>	72%	75%	73%	66%	70%	65%	85%	79%	75%	74%	75%	71%
<b>Average Percent Qualifying – Michigan</b>	2008 – 63.9%			2009 – 65.4%			2010 – 65.6%					
<b>Average Percent Qualifying – Nationally</b>	2008 – 57.8%			2009 – 58.9%			2010 – 57.5%					

**Note:** AP courses are traditionally taken at 11<sup>th</sup> and 12<sup>th</sup> grade and the majority of participants are from those grades. Advanced Placement U.S. History was first offered for 10<sup>th</sup> Graders in the 2006-07 school year.

\* Number of each schools seniors who scored 3 or higher on at least one AP Exam at any point during high school divided by the total number of each schools seniors.

**Summary:**

From 2008 to 2010 (three years of data), more students have taken more AP tests district-wide (109 more students, taking 134 more tests). At Farmington High School, the opposite is true, with fewer students taking fewer tests (19 fewer students, taking 78 fewer tests). In all three high schools, the percentage of “economically disadvantaged” students taking AP exams has increased, leading to a district-wide increase of this percentage (8% of the total population of students taking AP exams). District-wide, more students have qualified for college credit through AP exams (50 more). Again, Farmington High School has shown a change counter to the district-wide trend, with fewer students earning credit through AP exams in 2010 (13 students).

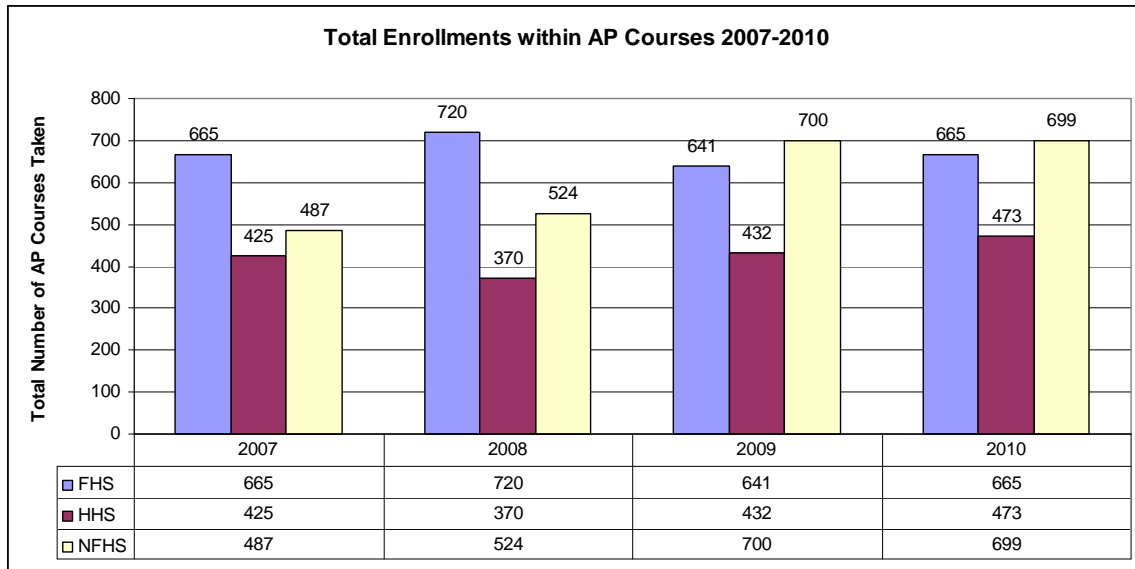
When comparing Farmington district-wide results to both state and national results, the district, as a whole, continues to demonstrate better performance. While the district-wide percentage of students qualifying for college credit declined (3%), this percentage remained above both the state and national averages.

**Statements regarding the results listed:**

- The district-wide number of students taking Advanced Placement exams has increased by 109.
- The district-wide percentage of economically disadvantaged students has increased from 11% to 19% of the total percentage of students taking exams.
- The district-wide number of Advanced Placement grades reported has increased by 134.
- The district-wide percentage of Advanced Placement exams passed has dropped by 3%.
- The district-wide number of exams per student has decreased 0.1.
- The district-wide number of students qualifying for college credit through Advance Placement examinations has increased by 50 students.
- The district-wide percentage of students who qualify for college credit has dropped by 3%.
- NFHS has had the greatest increase in the number of exams taken (172 more) and the number of students taking exams (106 more).
- FHS has had the largest increase in the percentage of “economically disadvantaged” students taking AP exams (8% of participating population).
- NFHS has had the greatest decline in the percentage of exams “passed” (10% fewer). Despite this, NFHS has also had the largest increase in the number of students earning credit (57 more students).

## AP Enrollment and Score Distribution Data 2007-2010

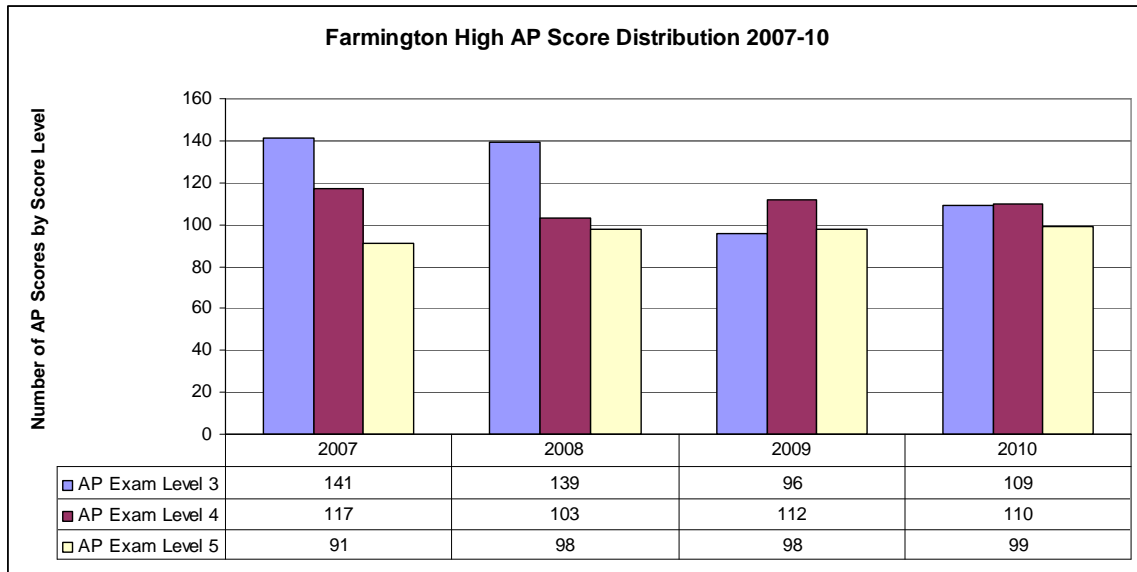
The following graph represents the total number of enrollments within all AP courses by students from each high school. A single student may be represented multiple times because students can be enrolled in multiple courses within the same school year.



### Statements from the data:

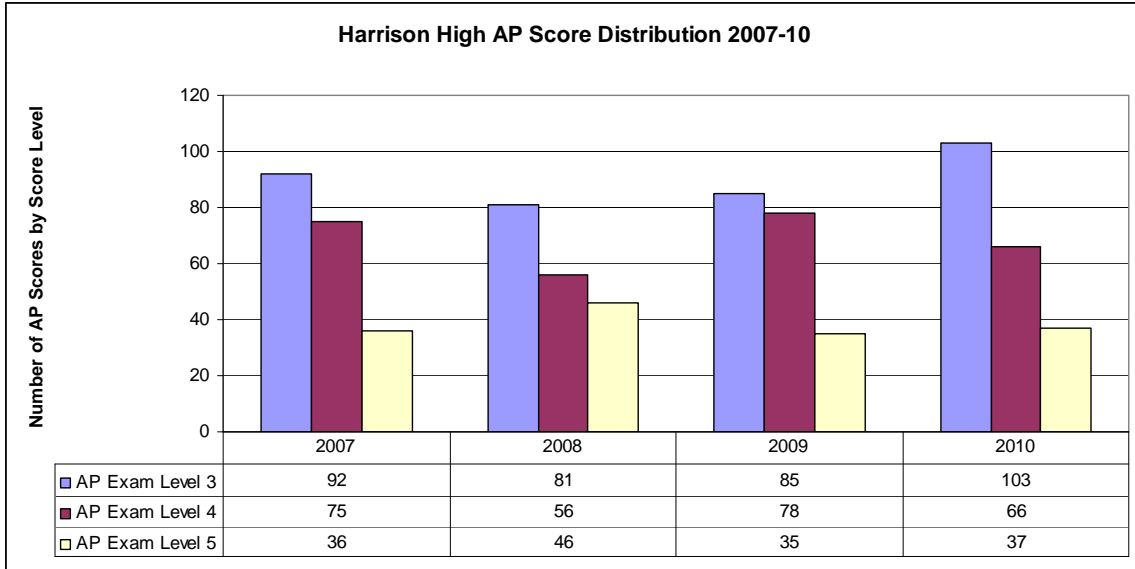
- District-wide, the number of enrollments in AP courses has increased, by 260.
- Two of the three high schools (HHS and NFHS) have shown increased enrollment in AP courses.
- Each year, HHS has had the lowest enrollment in AP courses. Both FHS and NFHS have had the highest enrollment in two of the four years.

The following three graphs represent the distribution of scores (3, 4 or 5) at a specific high school over the course of four years (2007-10). Current year (2011) scores are not available because AP testing is conducted in the spring. In these distributions, a single student may be represented multiple times, because student can take multiple AP tests in a given year. For the purposes of these graphs and statements, college “credit” is considered to be earned when a score of 3 is attained. The determination of college “credit” is, of course, at the discretion of each institution.



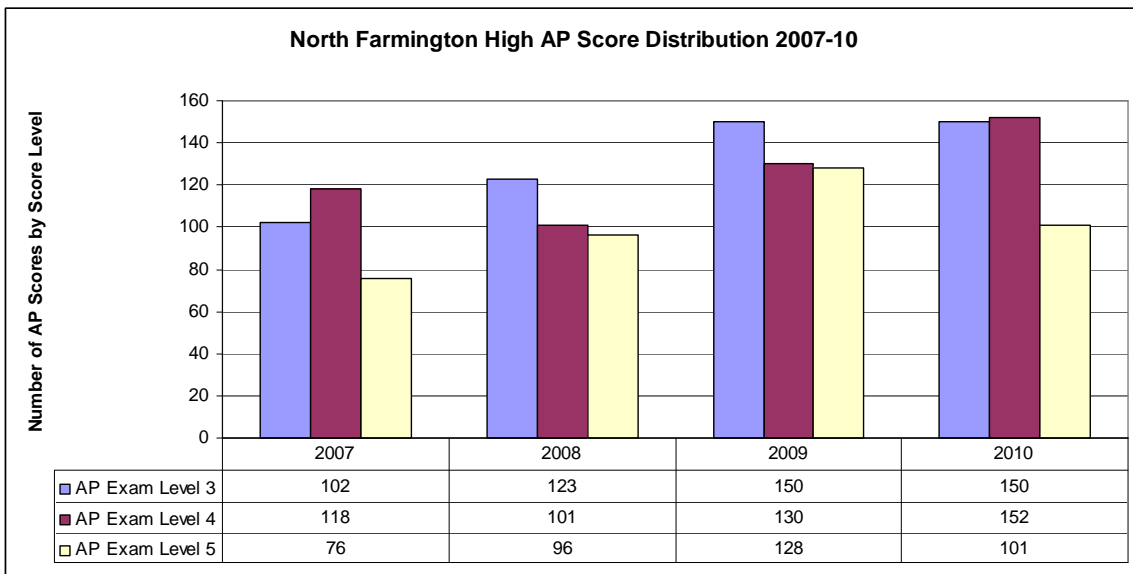
**Statements from the FHS data:**

- The number of 3’s and 4’s earned has declined, while the number of 5’s earned has increased.
- The total number of scores earning “credit” has decreased.



**Statements from the HHS data:**

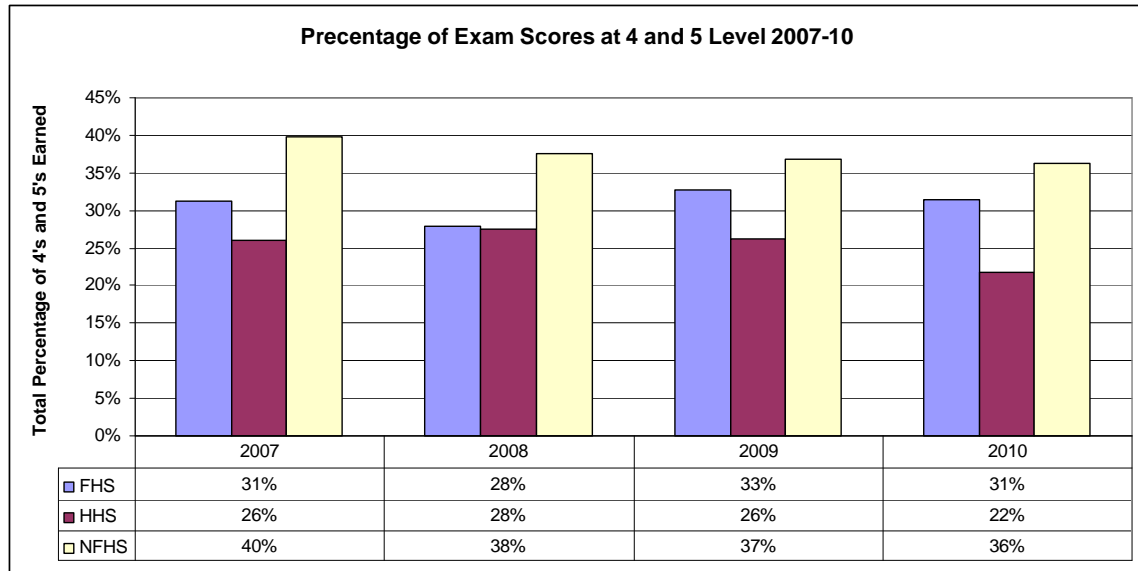
- The number of 3's has increased, while the number of 4's has decreased. The number of 5's has remained similar.
- The total number of scores earning "credit" has remained similar.



**Statements from the NFHS data:**

- The number of scores in all levels has increased.
- The total number of scores earning "credit" has increased.

The following graph represents the distribution of 4's and 5's as a percentage of all scores earned. The data is represented by individual high schools.



**Statements from the data:**

- The percentage of scores in the 4/5 range has decreased at two of the three schools (NFHS and HHS).
- The percentage of scores in the 4/5 range has remained similar at FHS.
- For each of the four years, NFHS has had the highest percentage of scores in the 4/5 range.

## Advanced Placement “Credit” Relative to Length of Course 2007-10

The following three tables represent the district-wide percentage of AP exam scores that earned a 3, 4 or 5 score in a specific course during a specific year. The courses are grouped according to the number of trimesters devoted to the teaching of each course. This table does not represent the percentage of students enrolled in a course, as students may enroll in a course and not elect to take the AP exam.

<b>2 Trimester Courses</b>	2007	2008	2009	2010
Language	75%	72%	82%	82%
Literature	71%	74%	77%	69%
Statistics	89%	78%	82%	85%
Environmental Sci.	100%		80%	79%
U.S. History	57%	43%	51%	55%
World History	67%	72%	69%	54%
Psychology	82%	86%	95%	86%
European History	41%	32%	78%	39%
Spanish	65%	71%	70%	59%
Micro/Macro Economics	91%	57%	70%	86%
Calc AB	74%	60%	53%	27%

<b>3 Trimester Courses</b>	2007	2008	2009	2010
Calc BC	90%	87%	89%	88%
Biology	82%	70%	76%	79%
Chemistry	86%	91%	79%	79%
Physics	63%	91%	78%	66%

<b>1 Trimester Courses</b>	2007	2008	2009	2010
Comparative Gov.	54%	59%	44%	
U.S. Government	56%	73%	67%	62%

### Summary:

During an initial review, there does not appear to be a conclusive connection between the trimester model implementation and the percentage of students earning “credit” on the AP exam. In 10 of the 17 courses reviewed, students earned higher percentage of “credit” over the course of the trimester model (2008-2010), when using the year 2007 as a baseline comparison (the final year of the semester model). The data does suggest that there exist issues which need to be investigated further: the downward trend of Calc AB performance, wide variance in European History and Physics performance.

**Learning  
Achievement  
Coalition-Oakland  
(LAC-O)**

**Algebra Data  
Class of 2011 to 2013**



**January 14, 2011**

Learning Achievement Coalition – Oakland (LAC-O) is an initiative, formed in 2007, between 28 Oakland County districts, Oakland Schools (ISD), and Oakland University. The four LACO goals include: 1) Literacy, 2) Teacher/Student Relationships, 3) Math, and 4) School Culture/Climate, with an in-depth look at the Teacher/Student and School Culture/Climate survey results. The purpose is to improve achievement for all students, especially students of color, students from poverty and non-traditional learners. Through LAC-O, Oakland County districts have committed to:

- Build a culture that encourages high achievement, respects individual differences, honors student voices, and focuses on the needs of all students in a climate which is nurturing, caring, supportive, and challenging.
- Deliver high-quality and engaging instruction that meets the needs of all students within a system that provides appropriate interventions and support.

This report reflects Farmington’s Algebra data for the last three years depicting when students took Algebra 1 along with how students performed with a passing grade of C- and above. These data are broken down by state and federal subgroups beginning with the Class of 2011 (first to be held accountable for Michigan’s graduation requirements) through the Class of 2013. Dr. Ernest Bauer of Oakland Schools will present a county-wide report to school district superintendents in February, 2011.

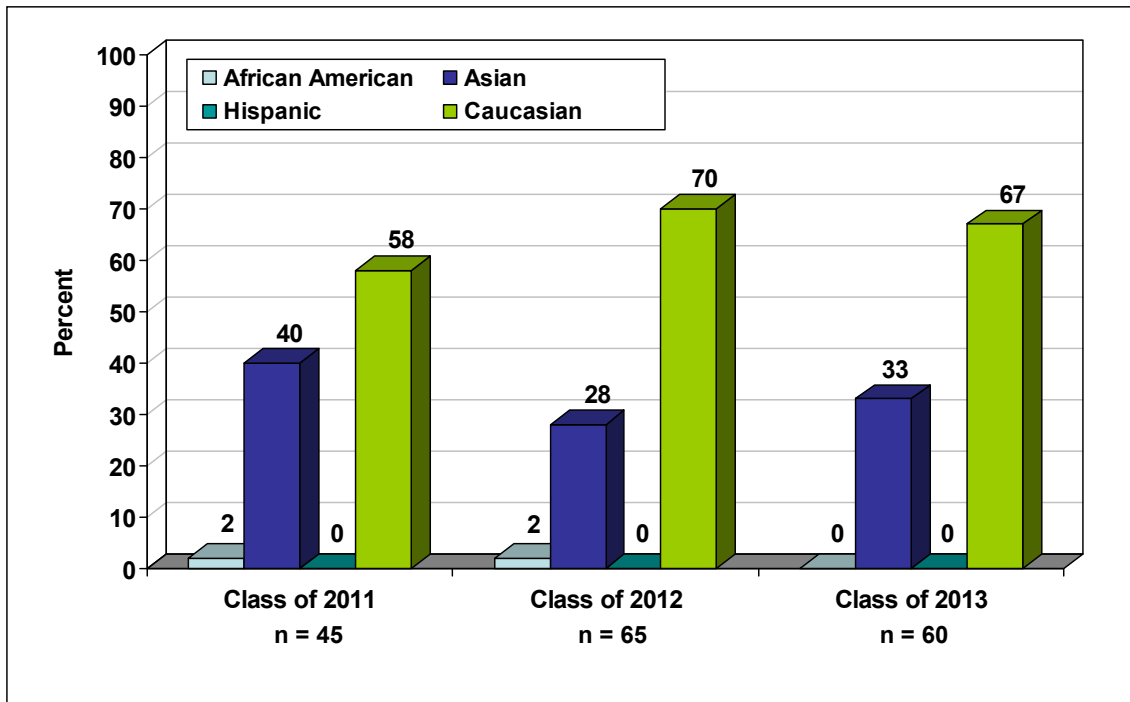
The first three charts include data by each graduating class followed by graphs depicting participation and performance by subgroups.

Farmington PS Student Group	Number of Students in the Class of 2011					
	7th Gr (05-06)		8th Gr (06-07)		9th Gr (07-08)	
	Took Alg I	Alg I ≥ C-	Took Alg I	Alg I ≥ C-	Took Alg I	Alg I ≥ C-
All Students	45	45	304	290	580	449
African American	1	1	12	9	134	84
Asian	18	18	50	49	23	21
Hispanic	0	0	2	2	4	3
White	26	26	240	230	419	341
Economically Disadvantaged (ED)	0	0	13	12	74	43
Non ED	45	45	291	278	506	406
Special Ed Students	0	0	2	2	43	26
Students without Disabilities	45	45	302	288	537	423
English Language Learners	20	20	83	81	89	70
Native English Speakers	25	25	221	209	491	379
Female	21	21	141	134	308	252
Male	24	24	163	156	272	197

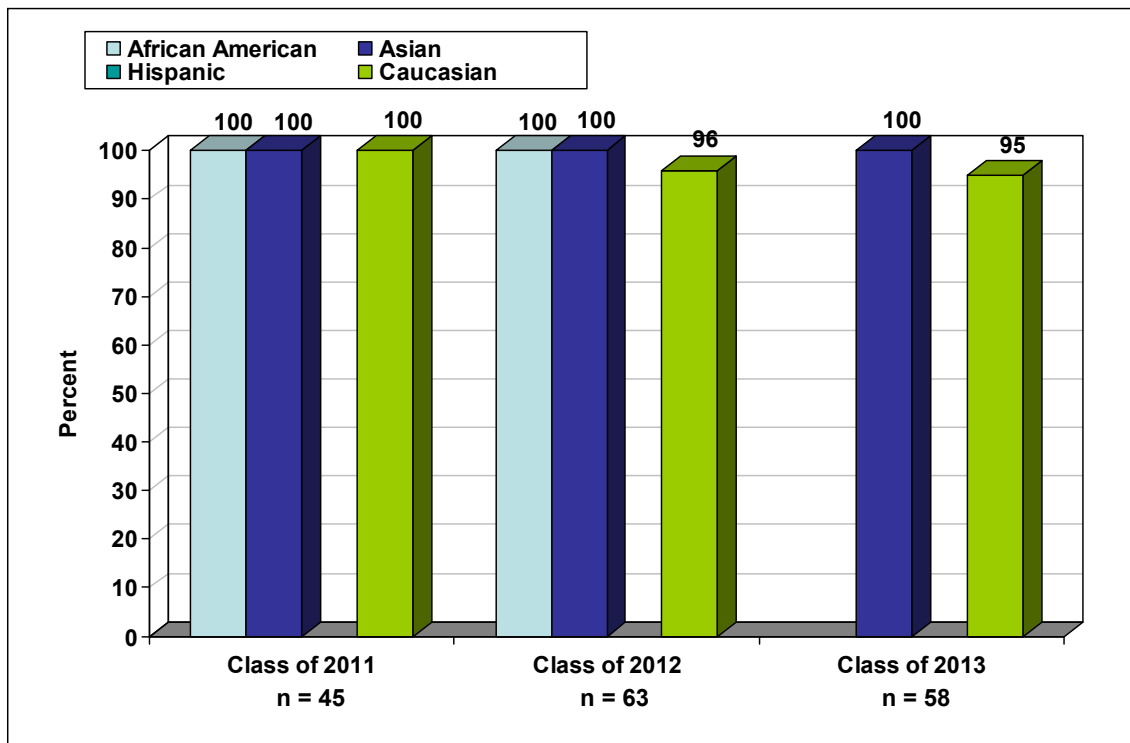
Farmington PS Student Group	Number of Students in the Class of 2012					
	7th Gr (06-07)		8th Gr (07-08)		9th Gr (08-09)	
	Took Alg I	Alg I $\geq$ C-	Took Alg I	Alg I $\geq$ C-	Took Alg I	Alg I $\geq$ C-
All Students	65	63	279	250	504	377
African American	1	1	24	22	128	80
Asian	18	18	42	40	20	17
Hispanic	0	0	3	3	5	4
White	46	44	210	185	351	276
Economically Disadvantaged (ED)	2	1	14	10	100	58
Non ED	63	62	265	25	404	319
Special Ed Students	0	0	6	4	41	27
Students without Disabilities	65	63	273	246	463	350
English Language Learners	15	15	57	50	68	48
Native English Speakers	40	38	222	200	436	329
Female	23	23	143	131	250	193
Male	42	40	136	119	254	184

Farmington PS Student Group	Number of Students in the Class of 2013						Class of 2013
	7th Grade (2007-08)		8th Grade (2008-09)		9th Grade (2009-10)		
	Took Alg I	Alg I $\geq$ C-	Took Alg I	Alg I $\geq$ C-	Took Alg I	Alg I $\geq$ C-	
All Students	60	58	298	276	543	370	901
African American Students	0	0	31	28	175	98	206
Asian Students	20	20	29	29	23	19	72
Hispanic Students	0	0	5	5	8	6	13
White Students	40	38	233	214	337	247	610
Economically Disadvantaged	0	0	29	25	172	97	201
Not Econ. Disadvantaged	60	58	269	251	371	273	700
Special Education Students	1	0	1	0	67	34	69
Students without Disabilities	59	58	297	276	476	336	832
English Language Learners	0	0	23	23	53	38	76
Native English Speakers	60	58	275	253	490	332	825
Female Students	17	15	151	145	246	178	414
Male Students	43	43	147	131	297	192	487

## 7th Graders Taking Algebra by Ethnicity

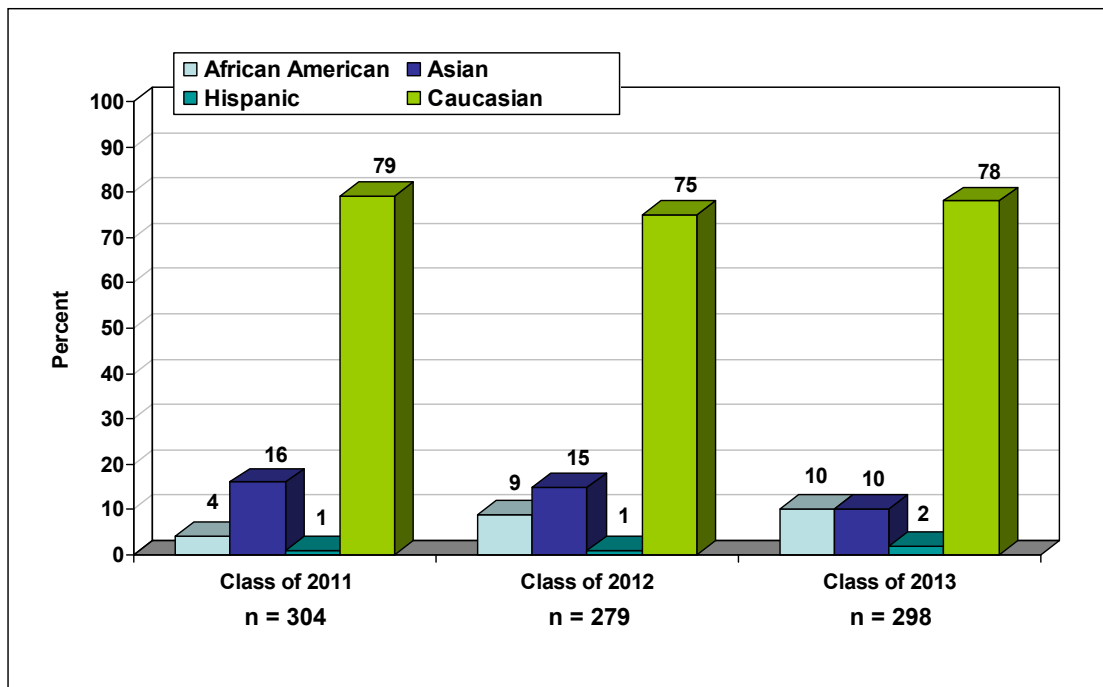


## 7th Graders Taking & Passing Algebra with $\geq$ C-

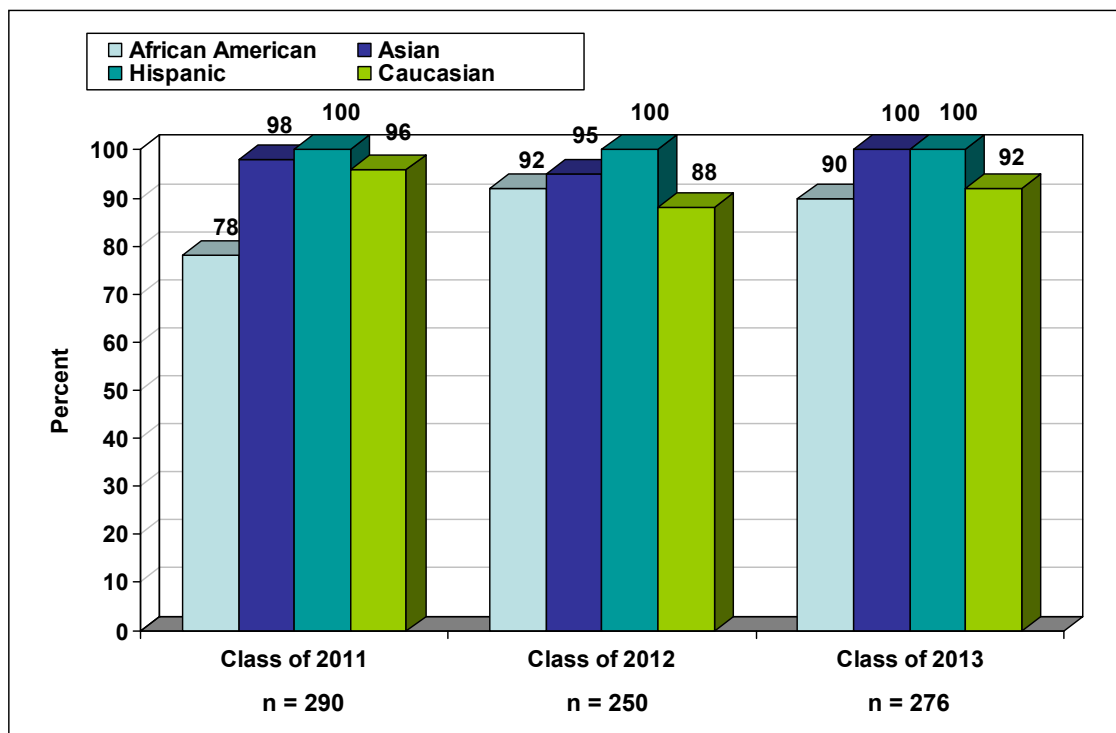


Algebra 1 participation numbers in seventh grade rose to sixty-five in 2012 and remained consistent over the last two years. Classes in seventh grade have primarily consisted of Asian and Caucasian students. The Classes of 2011 and 2012 each had two African American students who passed the course. However, the Class of 2013 did not have African American participation.

## 8th Graders Taking Algebra by Ethnicity

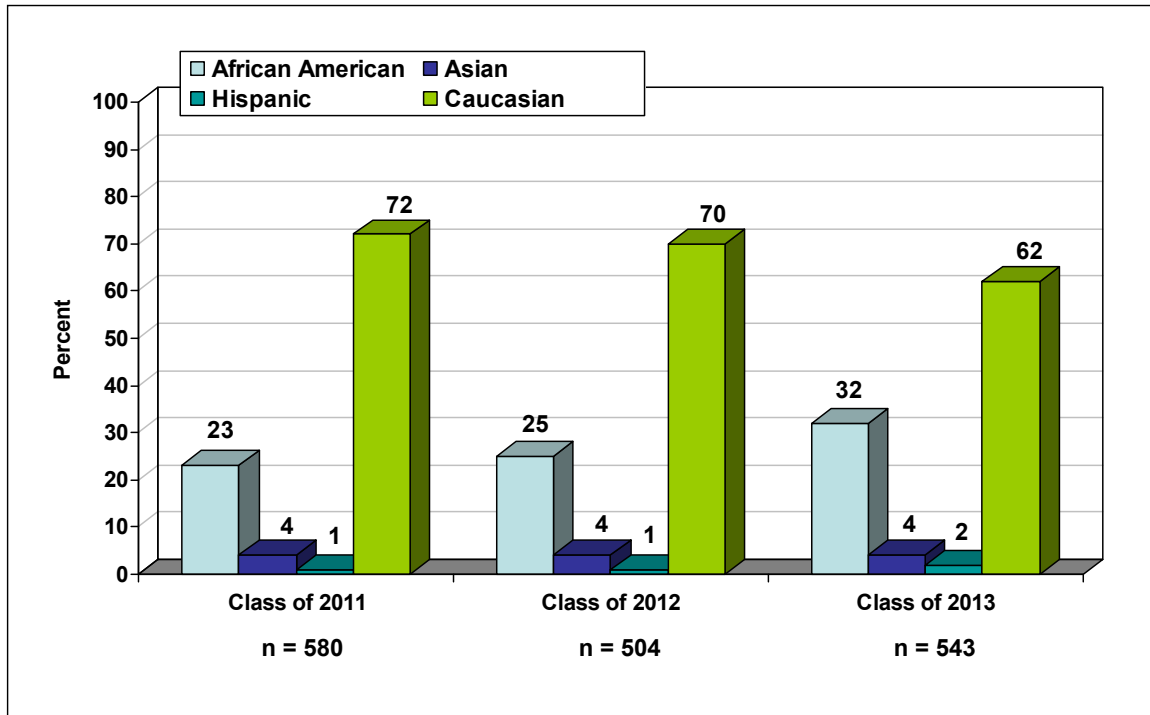


## 8th Graders Taking & Passing Algebra with $\geq$ C-

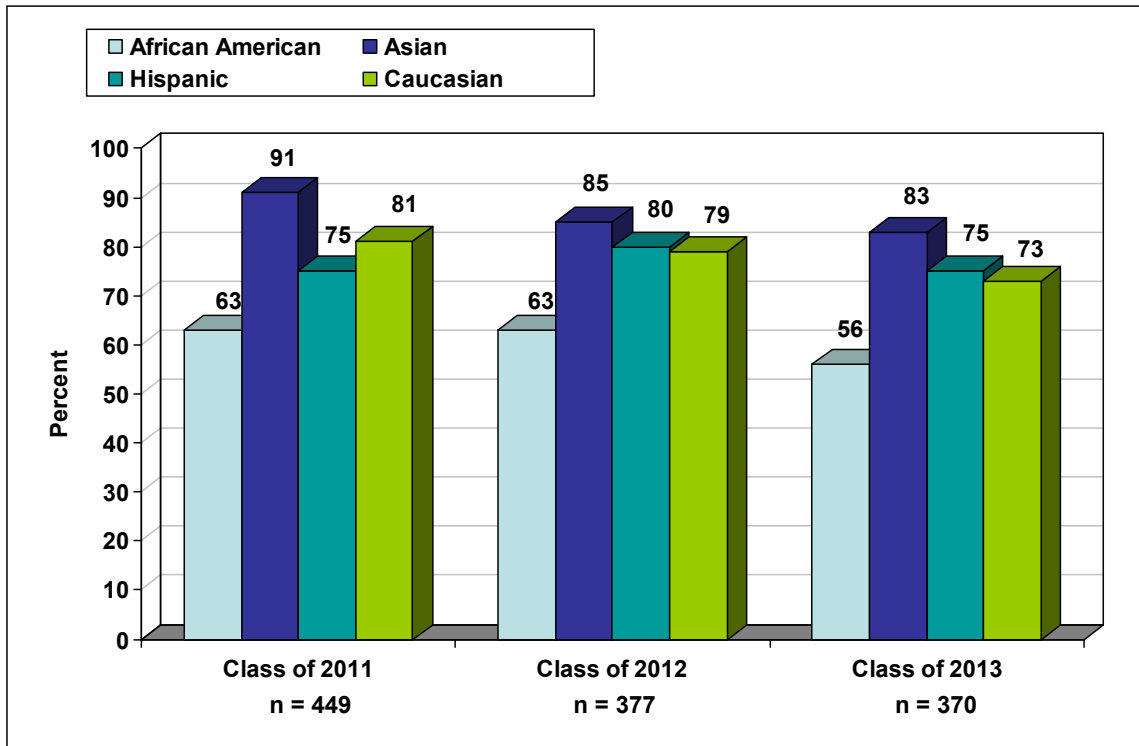


Algebra 1 course participation declined twenty-five students from the Class of 2011 to 2012 and rebounded with an increase of 19 students for the Class of 2013. Passing success increased for the Class of 2012 African Americans. This class was the first to experience the Connect Math Project curriculum during the previous year. Passing rates were consistent over the last two years.

## 9th Graders Taking Algebra by Ethnicity

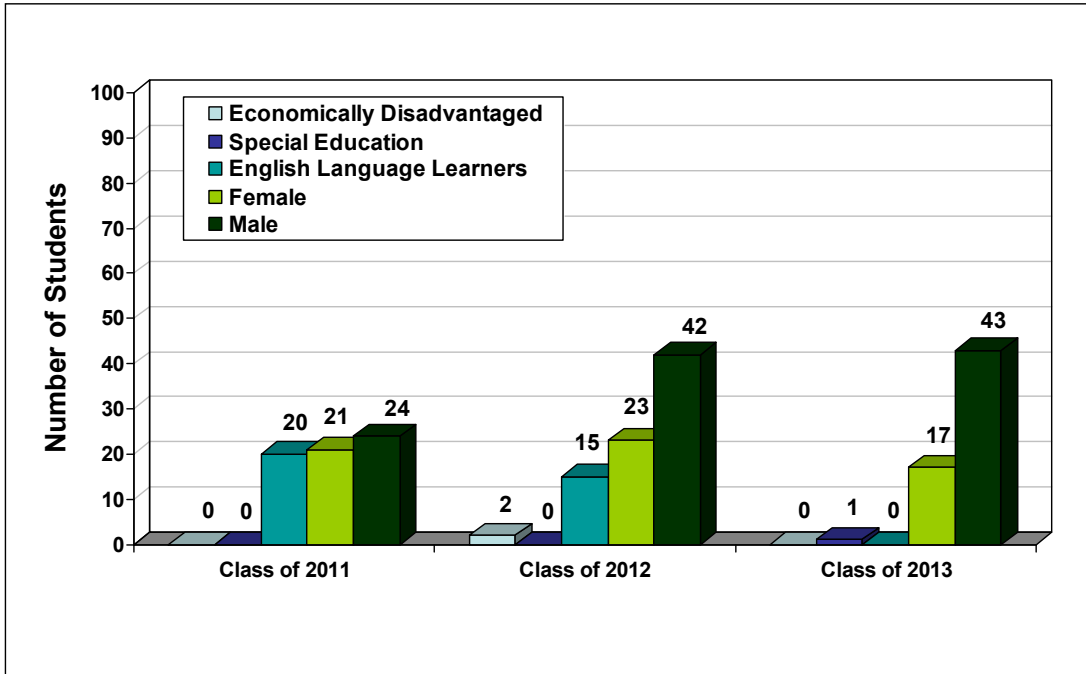


## 9th Graders Taking & Passing Algebra with $\geq$ C-

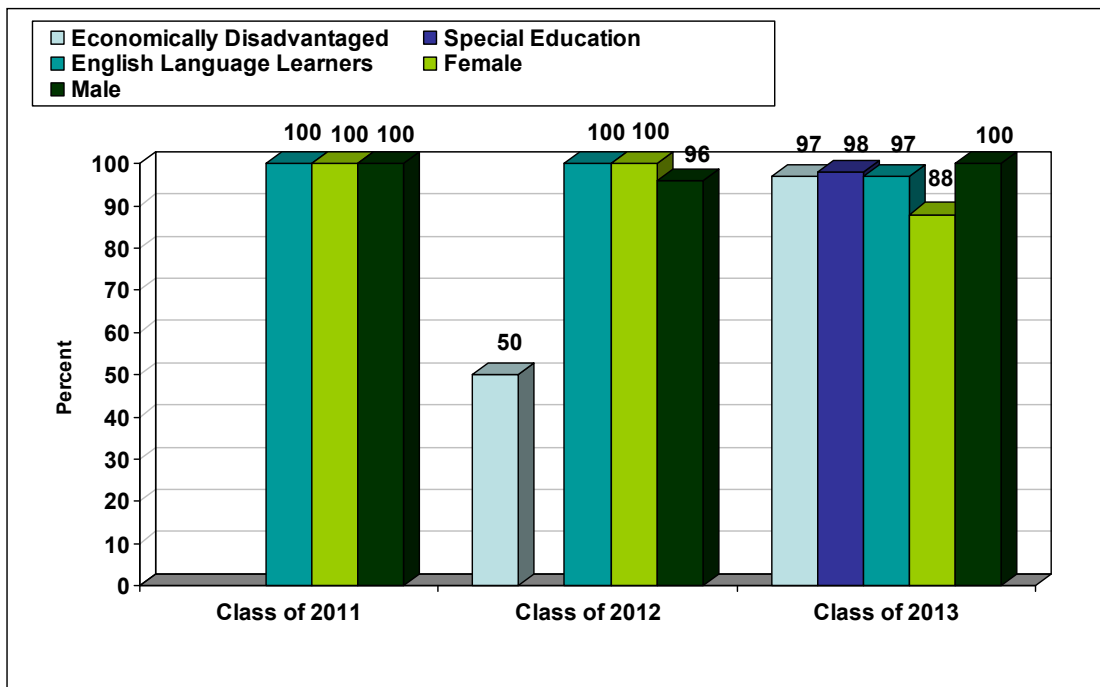


The new graduation requirement to complete Algebra 1 and 2 along with Geometry in high school has increased the participation for Algebra 1 at ninth grade. The top graph depicts the remaining students who have not taken Algebra 1 in either 7<sup>th</sup> or 8<sup>th</sup> grade. African American numbers increased while Caucasian numbers dropped indicating changes in population along with an increase of students taking Algebra 1 in Middle School. Success of completing Algebra 1 in ninth grade declined for the Class of 2013 during the 2009-10 school year.

## 7th Graders Taking Algebra by Other MI / NCLB Subgroups

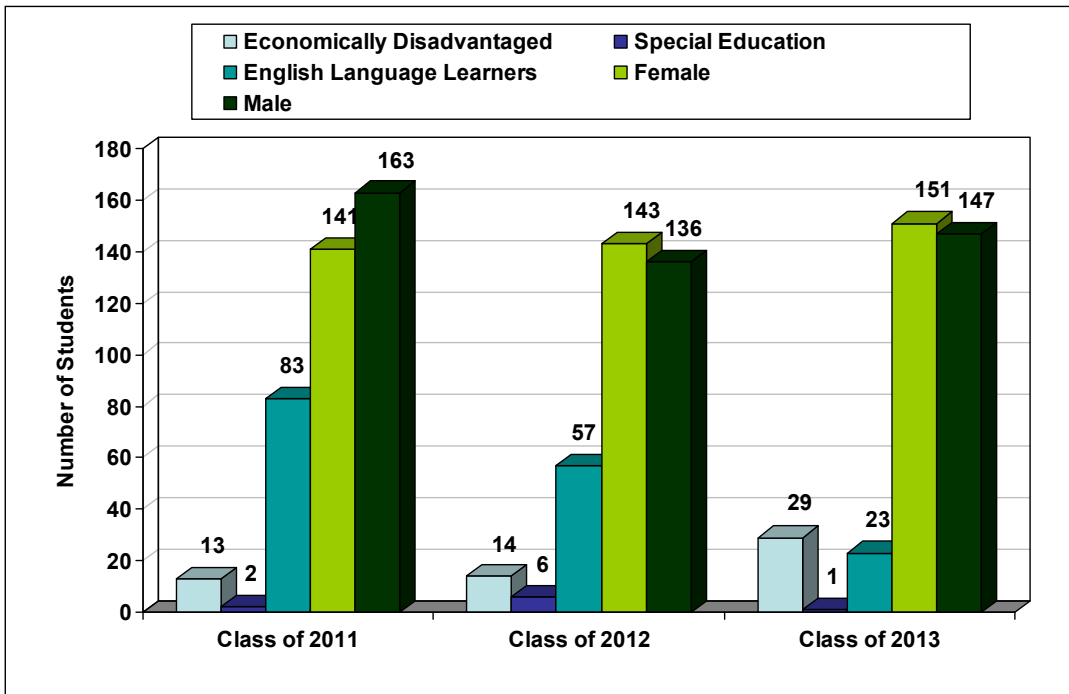


## 7th Graders Taking & Passing Algebra with $\geq$ C-

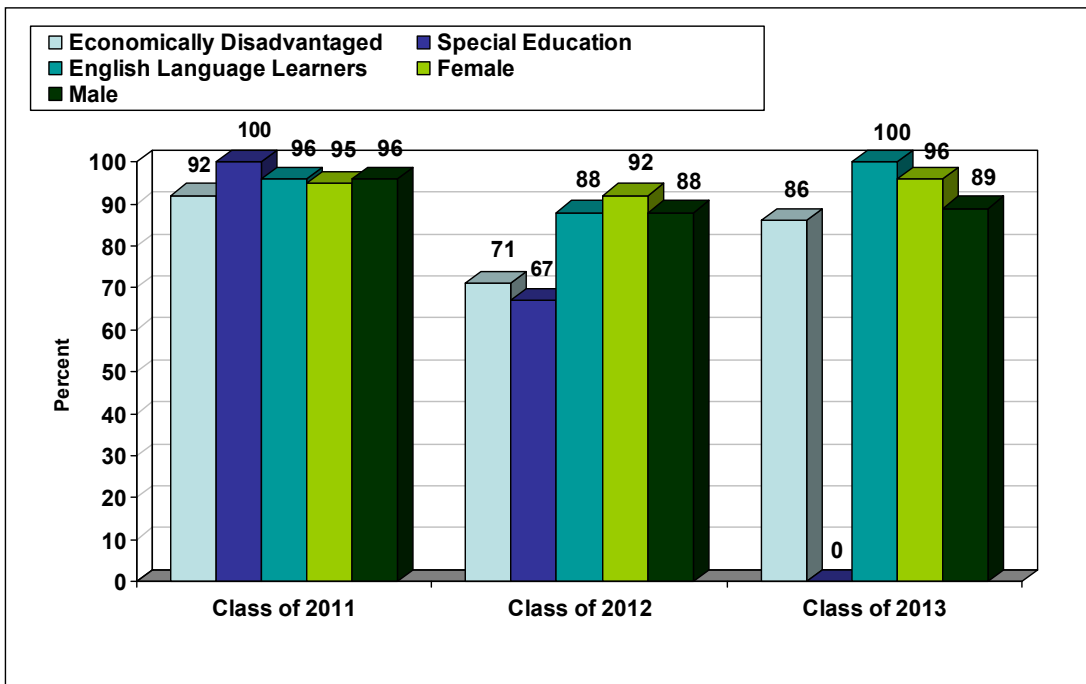


Participation graphs for the MI and NCLB Subgroups are depicted by the number of students rather than percent because of the possibility of students falling into multiple categories. The Class of 2011 male and female participation numbers for students taking are Algebra 1 in seventh grade are close. However, for the Classes of 2012 and 2013, we note an increasing gap between male and female participation. There were only two Economically Disadvantaged students who participated for the Class of 2012, one of which did not pass the course reflecting the fifty percent passed.

## 8th Graders Taking Algebra by Other MI / NCLB Subgroups

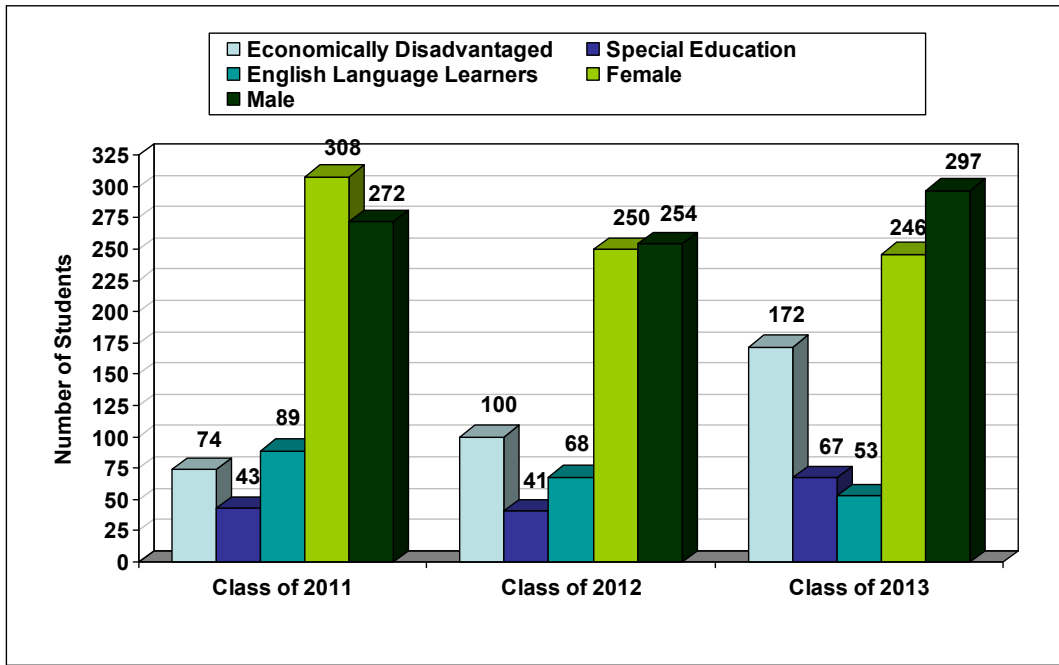


## 8th Graders Taking & Passing Algebra with $\geq$ C-

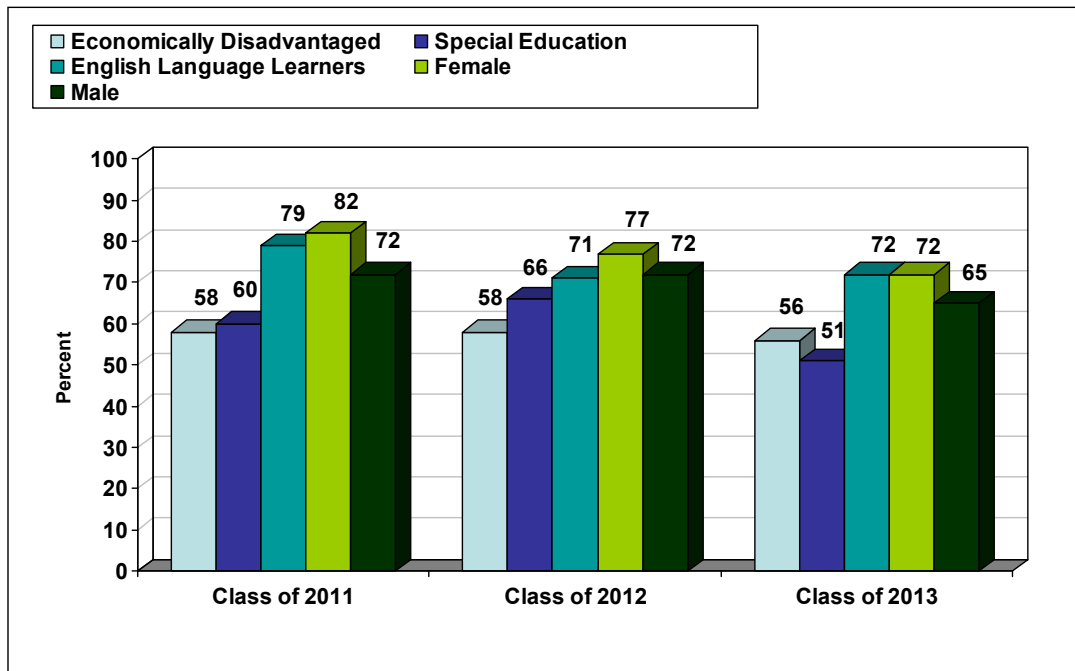


Participation graphs for the MI and NCLB subgroups are depicted by number of students rather than percent due to the possibility of students who are in multiple categories. Eighth grade male / female participation is more reflective of student population. English Language Learners participation has declined from eighty-three to twenty-three students. The Class of 2012 Economically Disadvantaged students underperformed others. Those results also hold true for the performance of 9<sup>th</sup> graders taking Algebra 1 on the following page.

## 9<sup>th</sup> Taking Algebra by Other MI / NCLB Subgroups



## 9<sup>th</sup> Graders Taking & Passing Algebra with $\geq$ C-



The participation of Economically Disadvantaged students is reflective of the dramatic increase in that subgroup. There were twenty-six students who took Algebra in 8<sup>th</sup> grade who repeated the course in 9<sup>th</sup> grade. This group was comprised of four African American students and twenty-two Caucasians, who consisted of nine females and seventeen males. Six students were economically disadvantaged and one special education student who failed Algebra as an eighth grader and obtained an A as a ninth grader. These students did not all failed the course. Eighth grade scores consisted of one B, ten Cs, eight Ds and seven Fs. Twenty-four students improved their grades with eleven As, four Bs, six Cs and three Ds. One student grade stayed the same earning D grades for both years and only one student's grade dropped from a C to a D+. None of these students received Fs as ninth graders.

## ACT Plan Longitudinal Data

2004-05 to 2010-11

The graphs, found on pages two and three, depict how each high school has performed on the ACT Plan beginning 2004-05, first year of district-wide administration, to 2010-11. The results are displayed by percent of students meeting College Readiness Benchmark Scores for each subject area assessment.

The EXPLORE and PLAN College Readiness Benchmark Scores are based on the ACT College Readiness Benchmark Scores. They reflect students' expected growth from EXPLORE to PLAN to the ACT and assume sustained academic effort throughout high school.

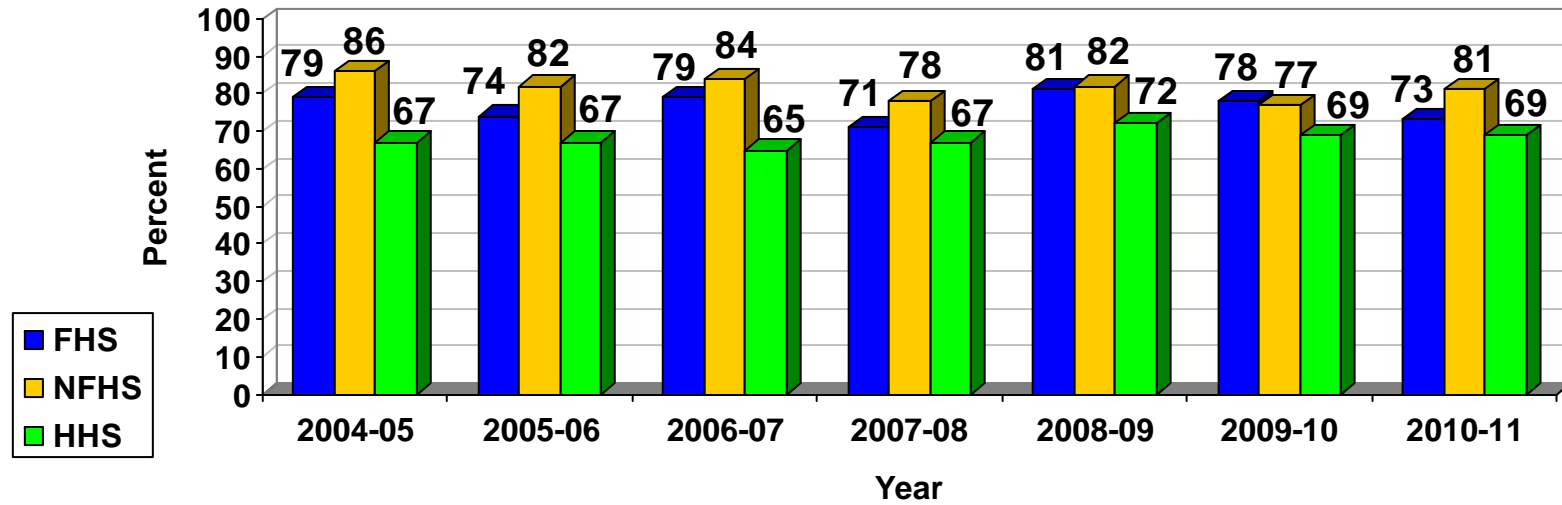
### ACT EXPLORE and PLAN College Readiness Benchmark Scores

ACT Subject Area Test	College Course(s) Examples	College Readiness Benchmark Score		
		EXPLORE	PLAN	ACT
English	English Composition	13	15	18
Math	Algebra	17	19	22
Reading	Social Sciences	15	17	21
Science	Biology	20	21	24

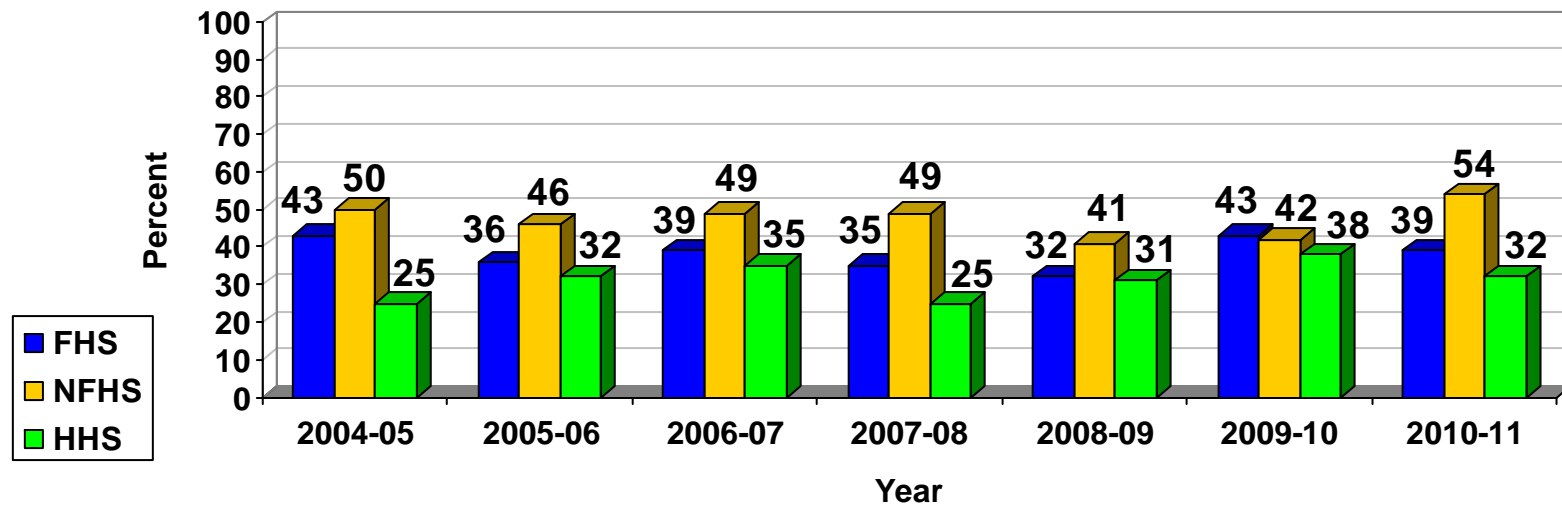
Students who meet a Benchmark on the ACT have  $\approx$  50% chance of earning a B or better and  $\approx$  75% chance of earning a C or better in the corresponding college course or courses. Students who meet a Benchmark on EXPLORE or PLAN are likely to have approximately this same chance of earning such a grade in the corresponding college course(s) by the time they graduate high school.

Schools have performed consistently over the seven years of administrations. English and Reading scores reflect lower benchmarks while Math and Science have a higher benchmark for students to meet. The Math and Science results tend to fluctuate up and down over time with the bottom of the dip occurring during the 2007-08 school year.

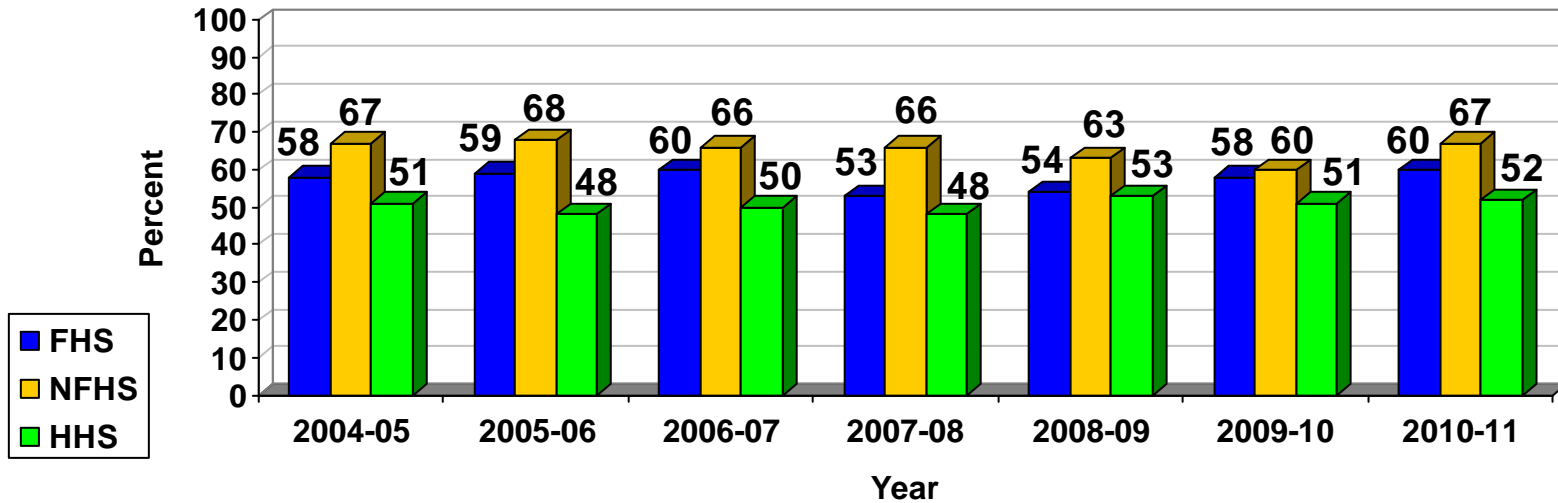
### ACT Plan College Readiness - English



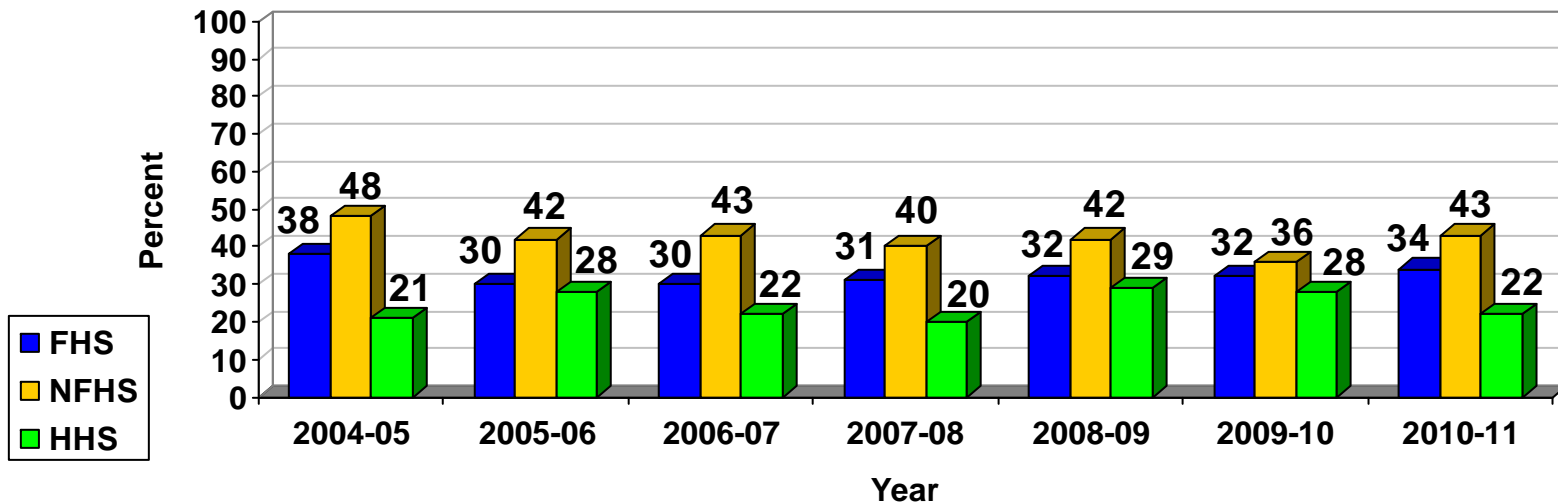
### ACT Plan College Readiness - Mathematics



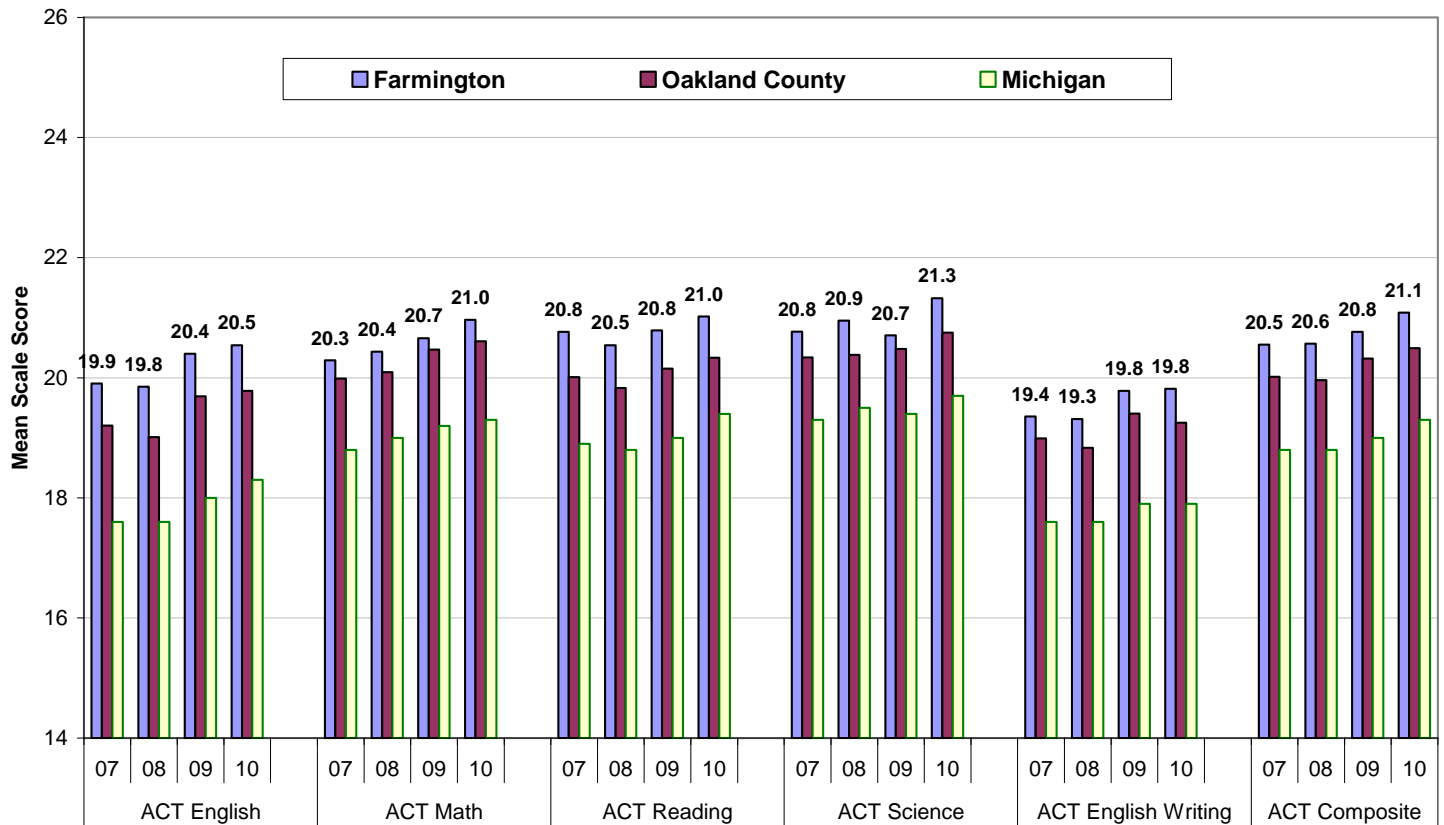
### ACT Plan College Readiness - Reading



### ACT Plan College Readiness - Science



## Spring 2007, 2008, 2009 &amp; 2010 11th Grade ACT Results



The EXPLORE and PLAN College Readiness Benchmark Scores are based on the ACT College Readiness Benchmark Scores. They reflect students' expected growth from EXPLORE to PLAN to the ACT and assume sustained academic effort throughout high school.

### ACT EXPLORE and PLAN College Readiness Benchmark Scores

ACT Subject Area Test	College Course(s) Examples	College Readiness Benchmark Score		
		EXPLORE	PLAN	ACT
English	English Composition	13	15	18
Math	Algebra	17	19	22
Reading	Social Sciences	15	17	21
Science	Biology	20	21	24

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

The examination of longitudinal core academic grade data is framed by the High School Graduation Requirements. The attached data reflect participation in specific courses for both before and after the implementation of the graduation requirements. The implementation of the graduation requirements brought about an increase level of rigor for all students.

### High School Graduation Requirements

Classes of 2008 to 2010	Class of 2011 and Beyond
<b>English – 4 credits</b> <ul style="list-style-type: none"> <li>▪ 1 credit English 9</li> <li>▪ 1 credit English 10</li> <li>▪ 1 credit from either A. two of the following: African-American Lit, American Lit and Language – Issues, American Lit and Language – Themes, Minority Voices in American Lit, (07-08 yr only) OR B. two terms of AP Language &amp; Composition</li> <li>▪ 1 credit English elective</li> </ul>	<b>English – 4 credits</b> <ul style="list-style-type: none"> <li>▪ 1 credit English 9</li> <li>▪ 1 credit English 10 – American Literature</li> <li>▪ 1 credit English 11 – World Literature</li> <li>▪ 1 credit English elective</li> </ul>
<b>Mathematics – 3 credits</b>	<b>Mathematics – 4 credits</b> <ul style="list-style-type: none"> <li>▪ 1 credit Algebra I</li> <li>▪ 1 credit Algebra II</li> <li>▪ 1 credit Geometry</li> <li>▪ 1 credit of math elective during final year of high school</li> </ul>
<b>Science – 3 credits</b> <ul style="list-style-type: none"> <li>▪ 1 credit life science</li> <li>▪ 1 credit physical science</li> <li>▪ 1 credit elective</li> </ul>	<b>Science – 3 credits</b> <ul style="list-style-type: none"> <li>▪ 1 credit Biology</li> <li>▪ 1 credit Chemistry</li> <li>▪ .5 credit Earth Science</li> <li>▪ .5 credit Physics</li> </ul>
<b>Social Studies – 3 credits</b> <ul style="list-style-type: none"> <li>▪ 1 credit Major Concepts in Social Science (Civics &amp; Economics)</li> <li>▪ .5 credit, International Studies Menu including International Affairs, Sociology, Current Issues in Geography &amp; Economics, World Religions and AP Comparative Government</li> <li>▪ 1 credit American History</li> <li>▪ .5 credit elective</li> </ul>	<b>Social Studies – 3 credits</b> <ul style="list-style-type: none"> <li>▪ .5 credit Civics</li> <li>▪ .5 credit Economics</li> <li>▪ 1 credit U.S. History &amp; Geography</li> <li>▪ 1 credit World History &amp; Geography</li> </ul>

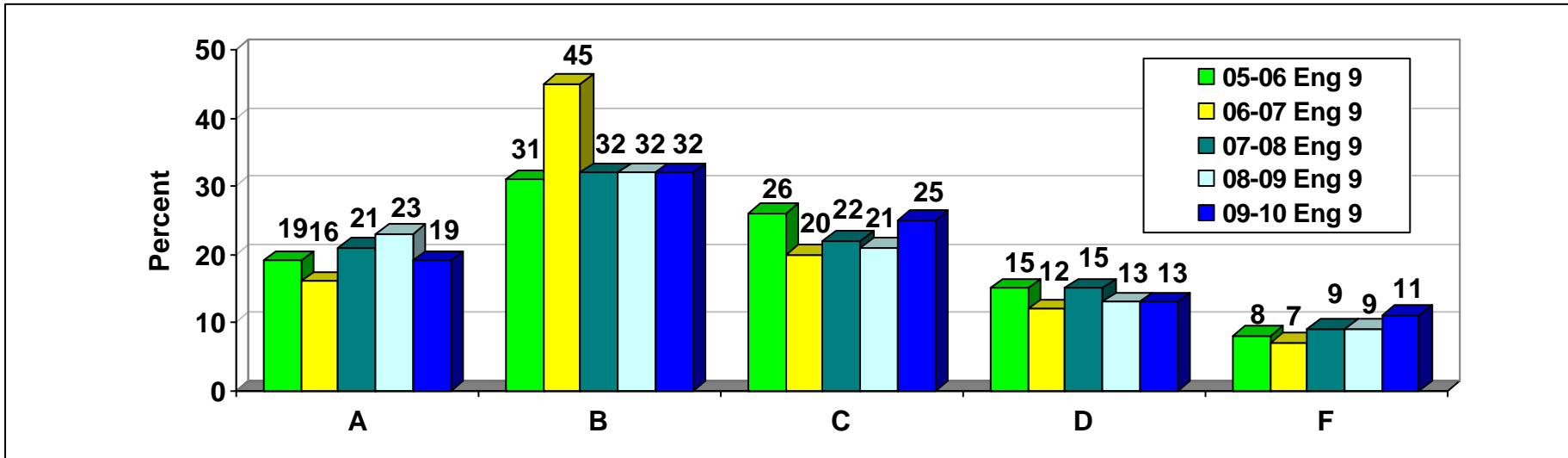
Identified Advance Placement (AP) courses may be taken as alternative required courses for 10<sup>th</sup>, 11<sup>th</sup> or 12<sup>th</sup> grade students in English, Mathematics, Science and Social Studies.

Data, found below, were calculated by taking the average of letter grades for course, divided by the average of the students participating in course to determine the percent of As, Bs, Cs, Ds and Fs. Enrollments are found below by year and subject courses.

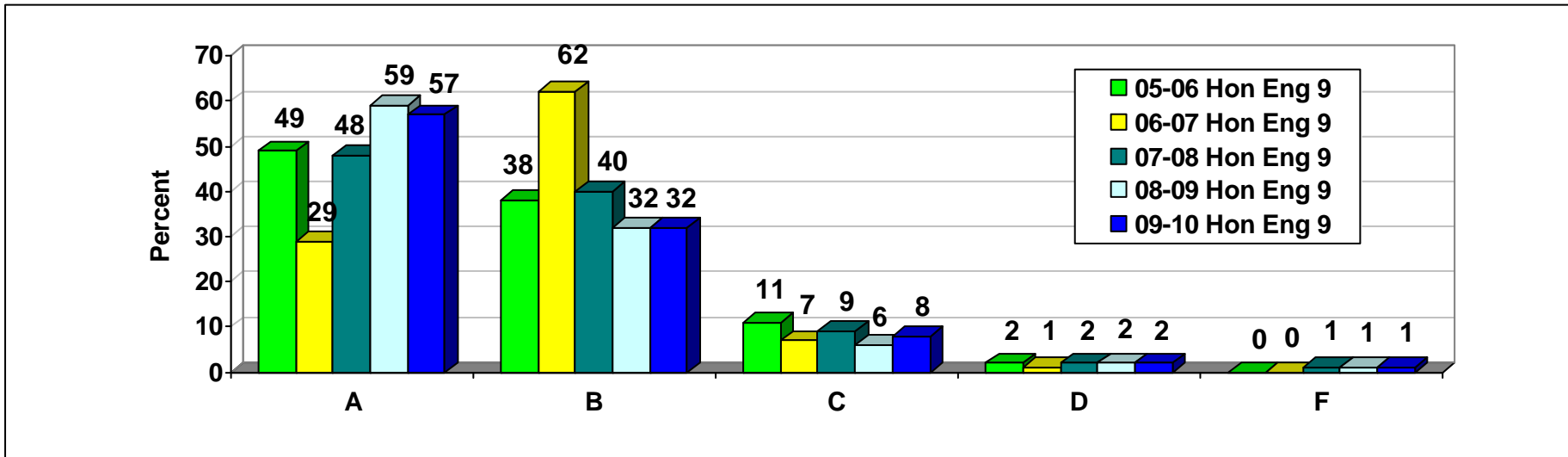
## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### English Courses

#### English 9



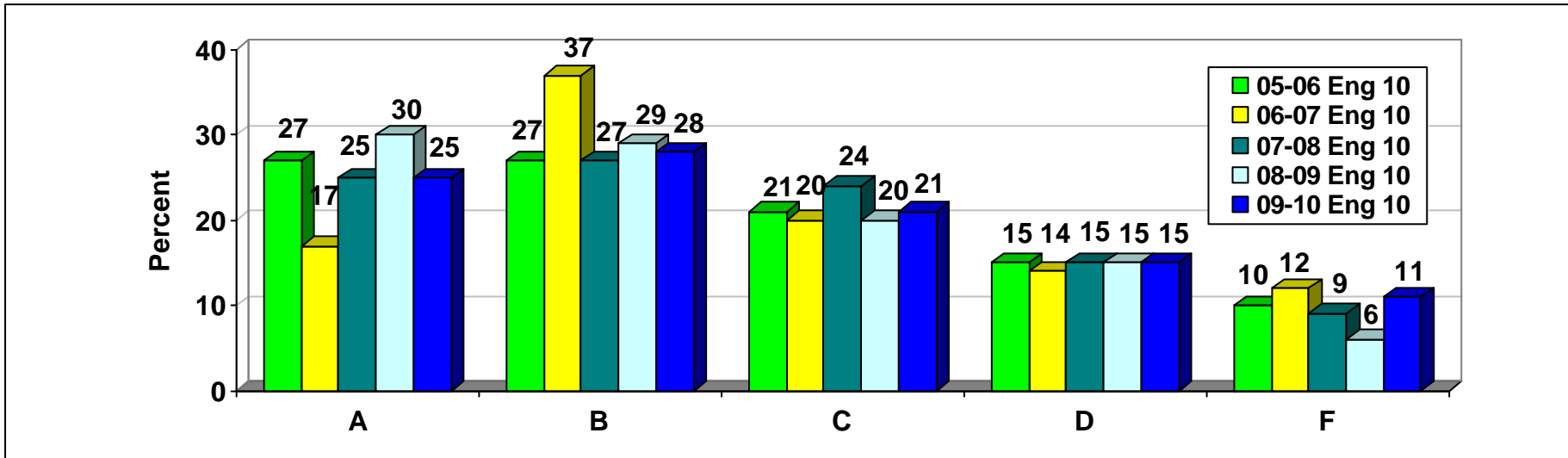
#### Honors English 9



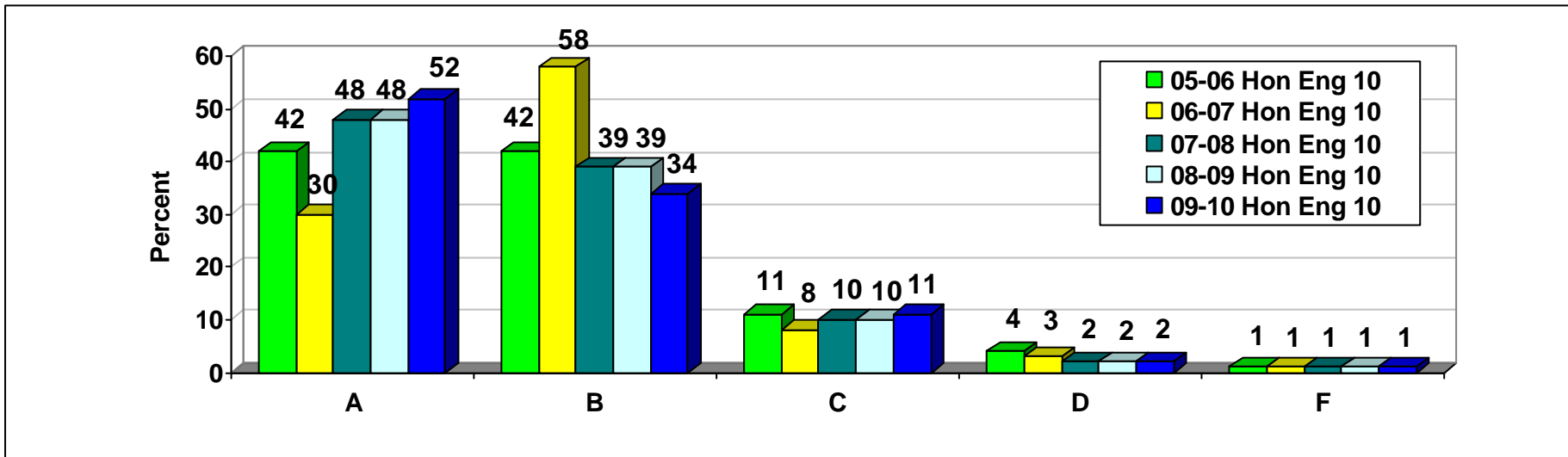
As expected, the Honors English 9 students obtained more As and Bs than the English 9 students. The distribution of grades over the last five years for ninth grade English students has remained consistent except for 2006-07. Grade results from the 2006-07 school year (across all English classes) displayed a decline in As with a corresponding increase in Bs compared classes before and after that year.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### English 10



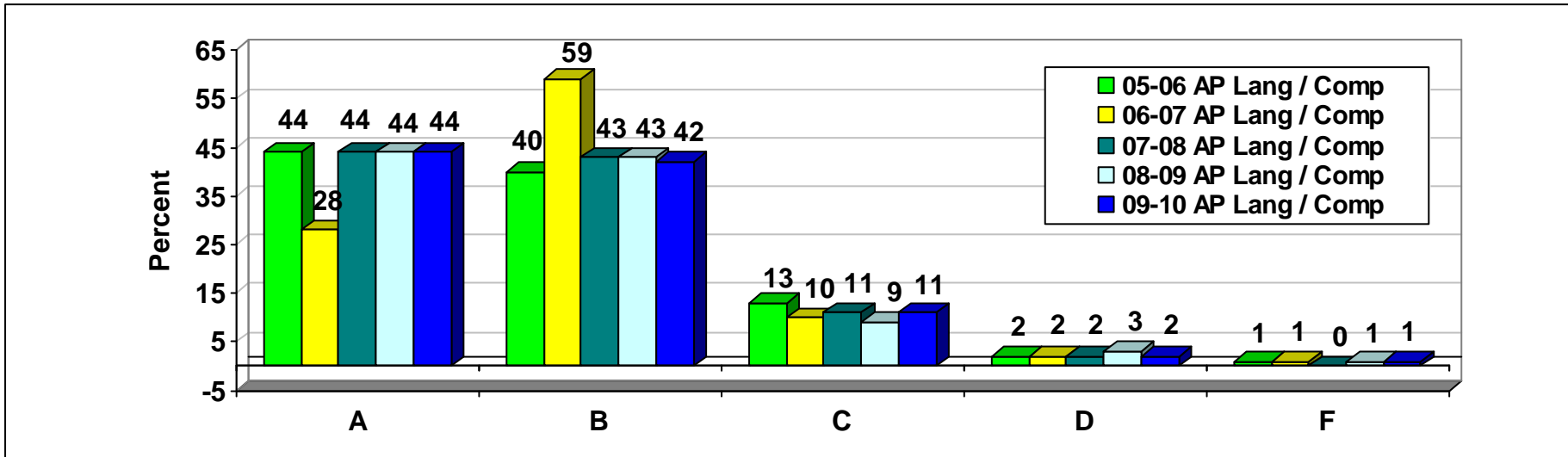
### Honors English 10



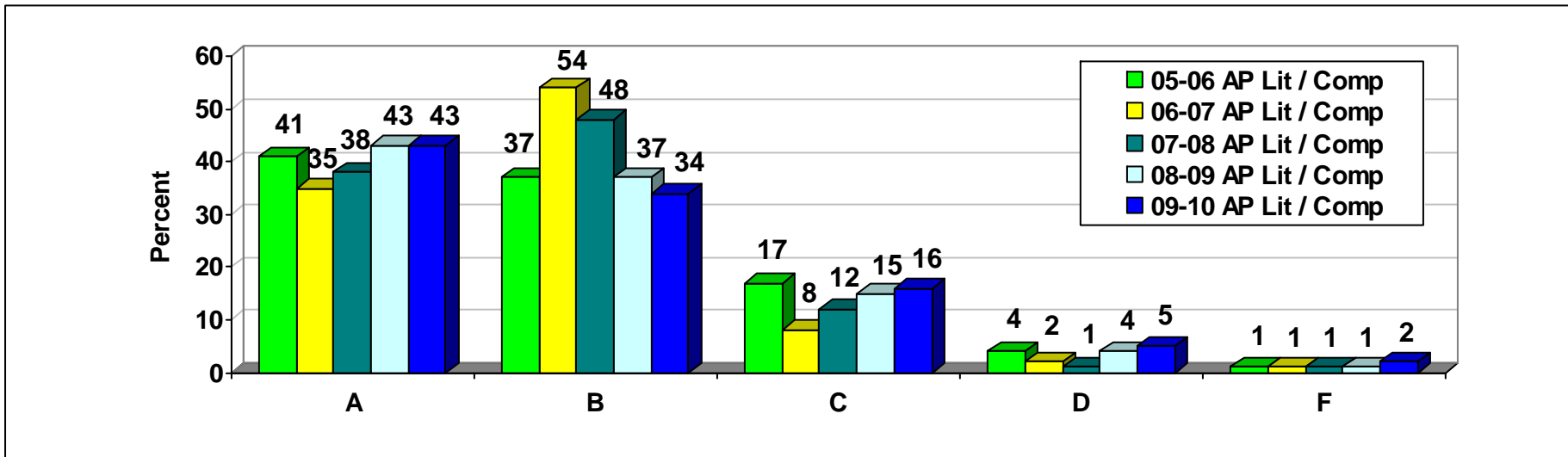
Students obtained more As in tenth grade as compared to ninth grade performance. The awarding of grades was consistent across the years. Honors English 10 shows an increase in As from 2005-06 to 2009-10. Once again the exception was the 2006-07 school year.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### Advanced Placement Language & Composition



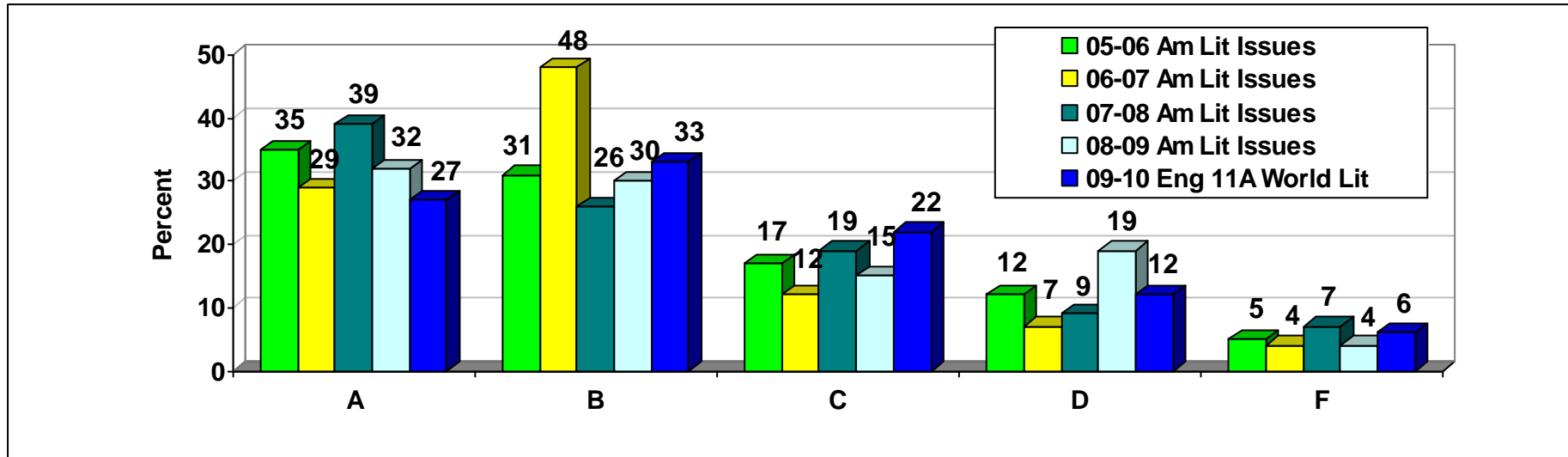
### Advanced Placement Literature & Composition



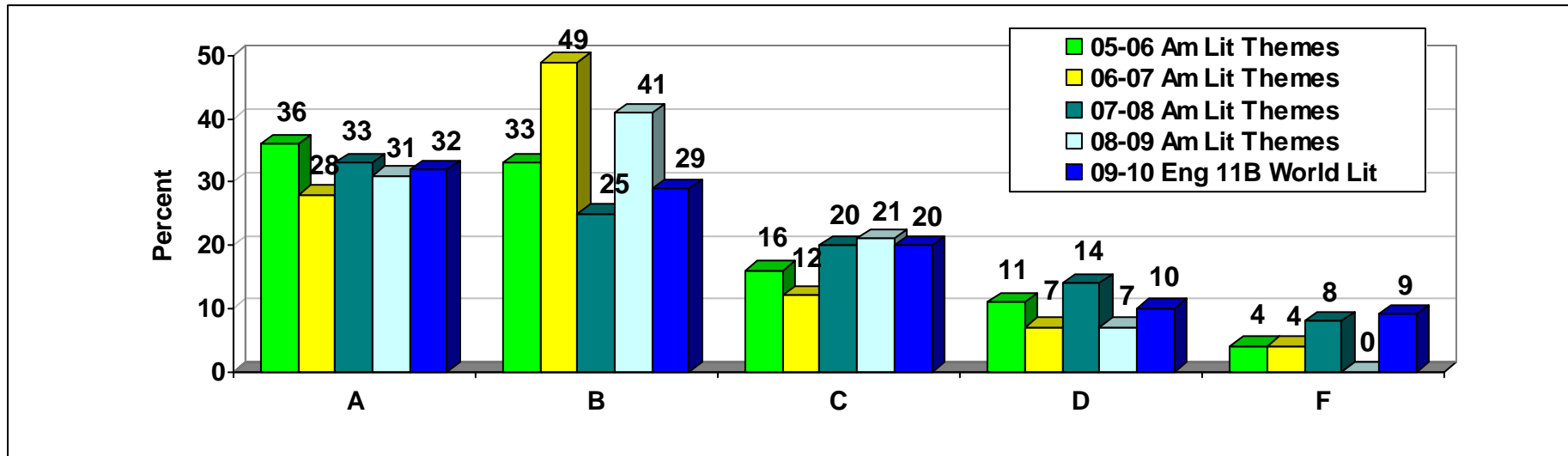
Twice as many students participated in AP Language and Composition classes compared to AP Literature and Composition. The gap is reduced for the 2009-10. AP Literature and Composition has an upward trend with the number of Cs obtained over the last four years. These courses generally are taken by Honors level students.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### American Literature Issues (11<sup>th</sup>/12<sup>th</sup> Grade) and 09/10 Eng 11A – World Literature



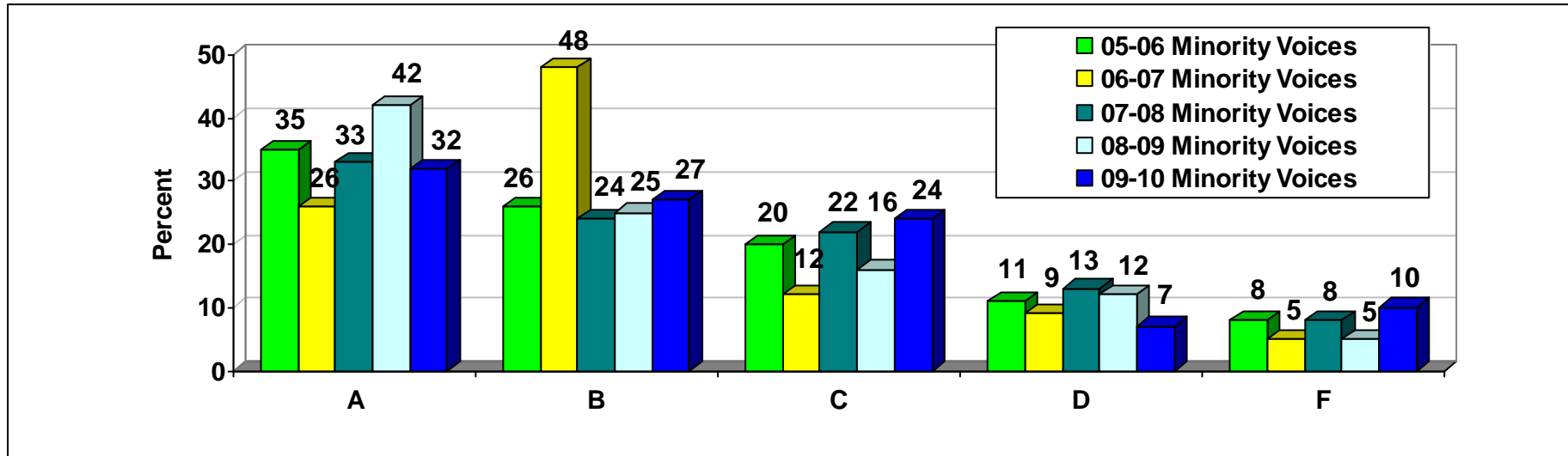
### American Literature Themes (11<sup>th</sup>/12<sup>th</sup> Grade) and 09/10 Eng 11B – World Literature



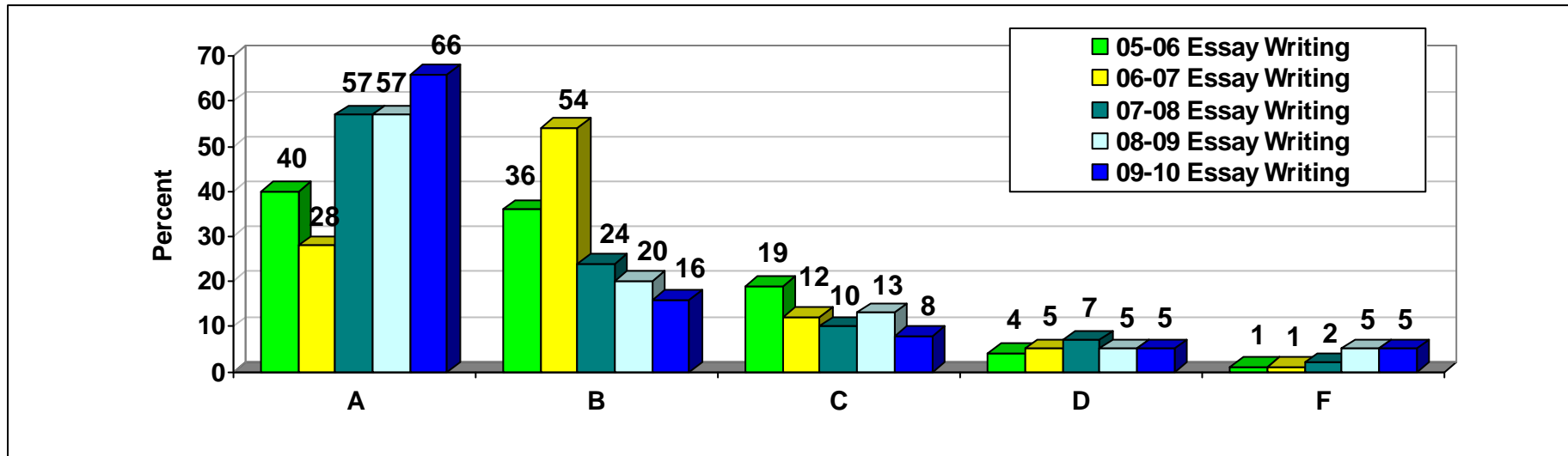
American Literature Issues and Themes initially was offered to 11<sup>th</sup> grade students. As noted in the chart on page 1, changes were made with Farmington's English course of study to comply with Michigan graduation required and to align English and Social Studies. American Literature was moved to tenth grade to align with US History and World Literature was placed in 11<sup>th</sup> grade to align with World History.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### Minority Voices (12<sup>th</sup> Grade)



### Essay Writing (12<sup>th</sup> Grade)



Minority Voices and Essay Writing was two of the popular electives for those students not participating in Advanced Placement courses. Initially Minority Voices was a popular choice. An increase in enrollment for Essay Writing began in 2007-08 and has dramatically increased in 2009-10 with ninety-seven in Minority Voices and 408 in Essay Writing as well as the number of As.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

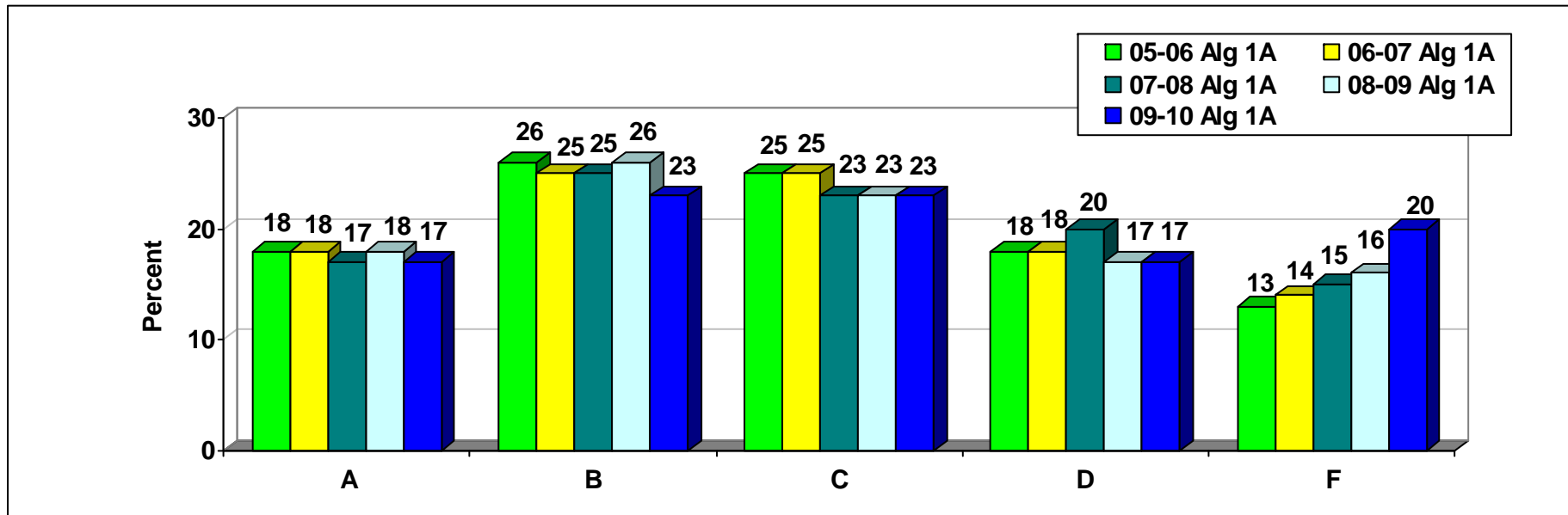
### Mathematics Courses

Mathematics courses have undergone significant changes with increased rigor to meet the State’s graduation requirements. During the 2005-06 and 2006-07 school years, Algebra 1 courses were offered with four variations dependent upon the high school. For the purpose of this analysis, all Algebra data were combined together to reflect a similar population for the following school years when it became a graduation requirement beginning with the Class of 2011. The majority of the Class of 2011 took Algebra as ninth graders during the 2007-08 school year. The number students taking Algebra at the middle school level has increased. (See the LAC-O Algebra Report for further information.) Graduation requirements, for those who have failed Algebra have increased the number of times students may take an Algebra course.

During the 2008-09 school year, the majority of students from the Class of 2011 took Geometry as tenth graders. Prior to that year, Geometry was offered with two variations, Applied Geometry and Modern Geometry along with Honors Geometry for accelerated students. Applied Geometry and Modern Geometry grades were also combined for the purpose of this analysis to reflect a similar population for Geometry.

During the 2009-10 school year, Harrison High School was the only school to offer Algebra 2, Honors Algebra 2 / Trigonometry and Advanced Placement AB over three trimesters. The state modified the graduation requirement for taking Algebra over additional time last year.

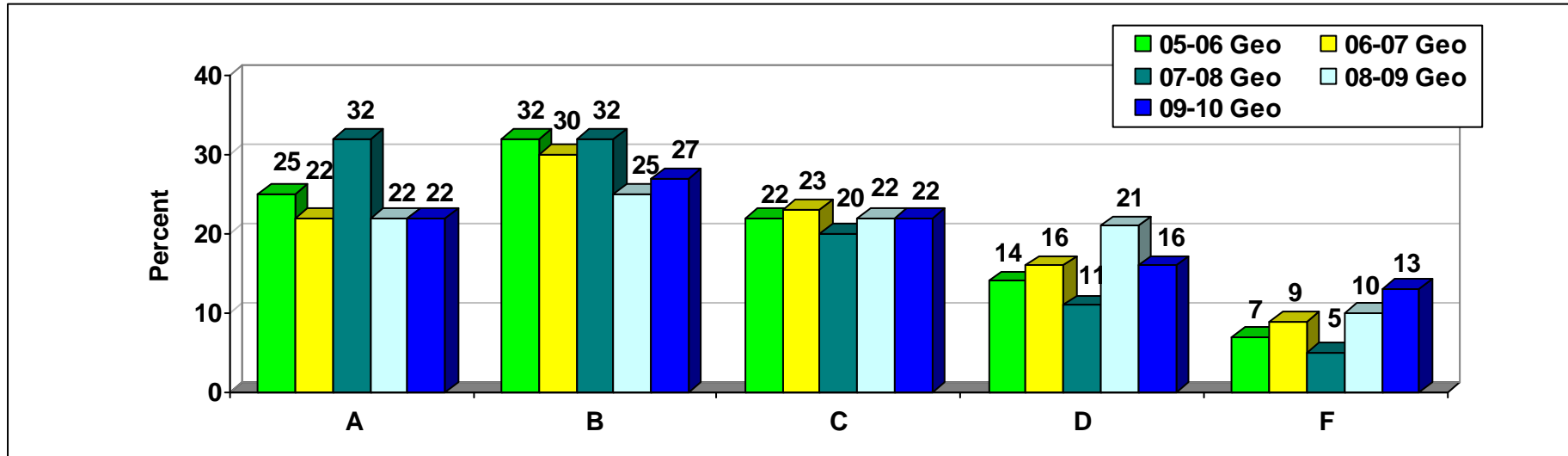
### Algebra 1



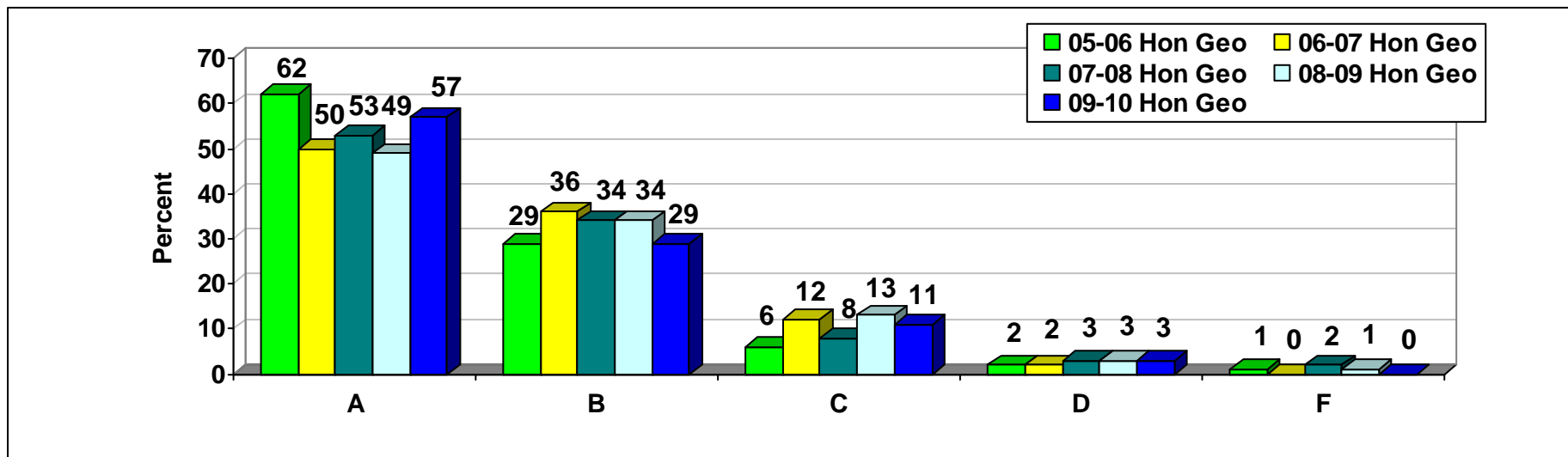
Algebra 1 grade data is consistent from year to year with the exception of the 2009-10 school year which indicated a decline in the number of Bs given and an increase number of Fs. Further analysis will need to take place to examine who are receiving Ds and Fs and if any of these grades are for repeated courses.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### Geometry



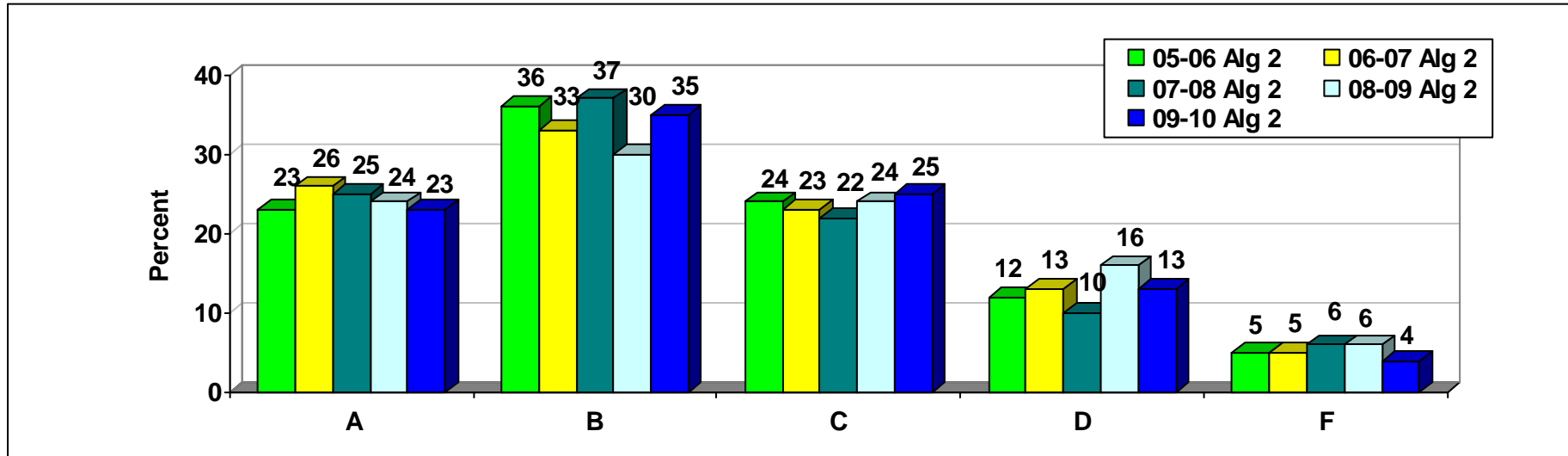
### Honors Geometry



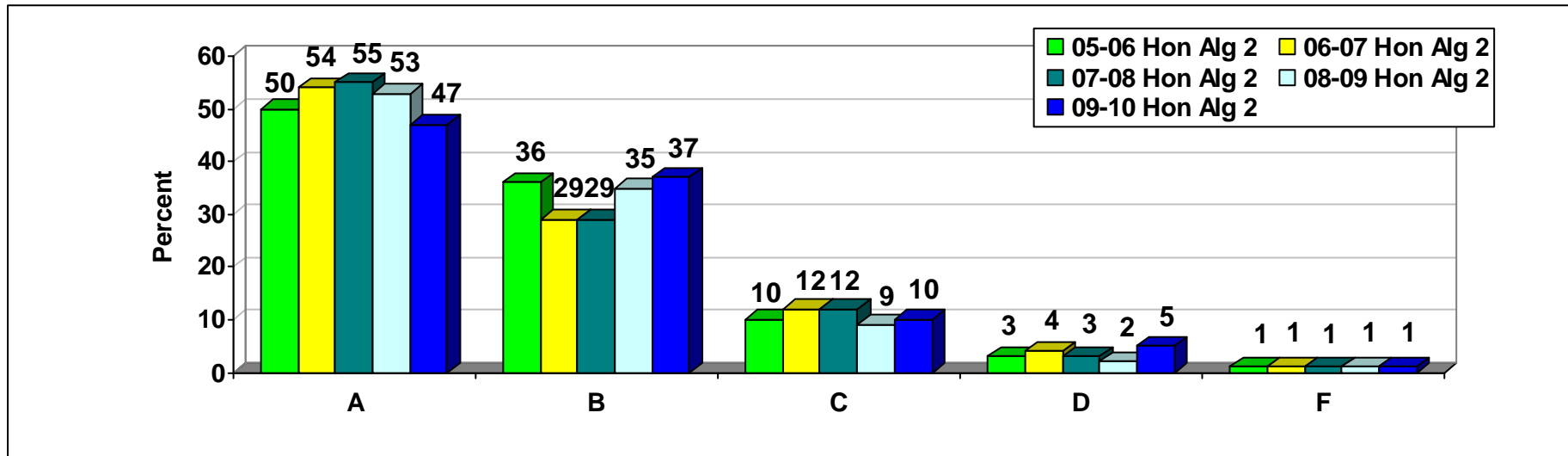
As mentioned above, regular Geometry was divided into two courses for the 2005-06 through 2007-08 school years. Students took courses to match their interest and ability levels compared to the more rigorous standards implemented in the 2008-09 school year. Geometry will also need to be examined for repeated courses. Honors Geometry for accelerated students has been stable over the years with an increase of As being shown for the 2009-10 school year.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### Algebra 2



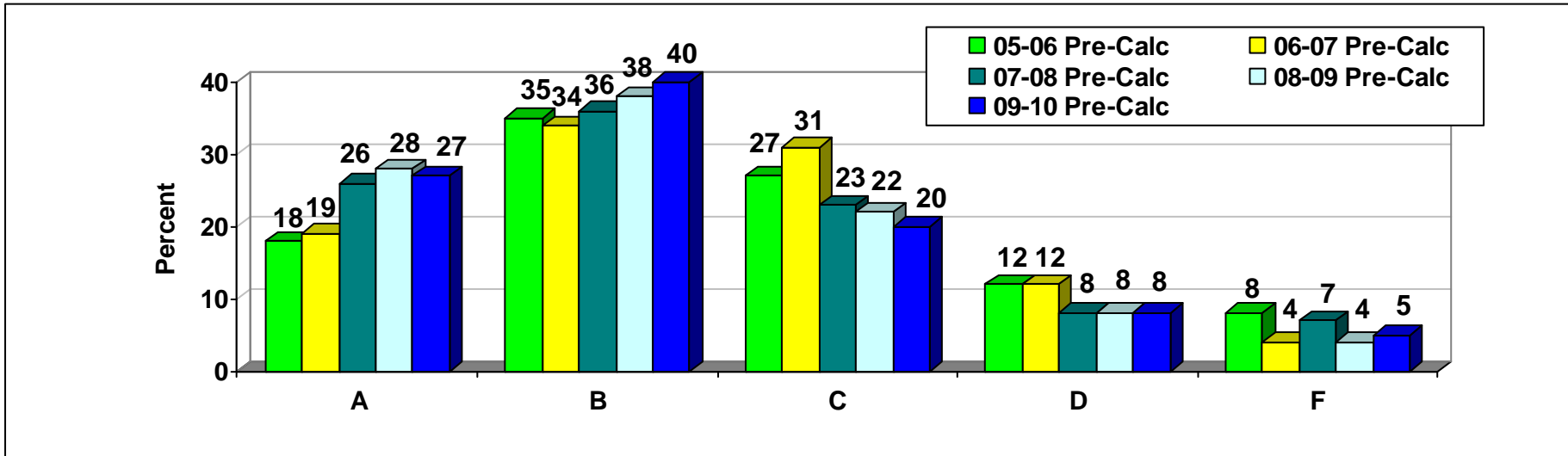
### Honors Algebra 2 / Trigonometry



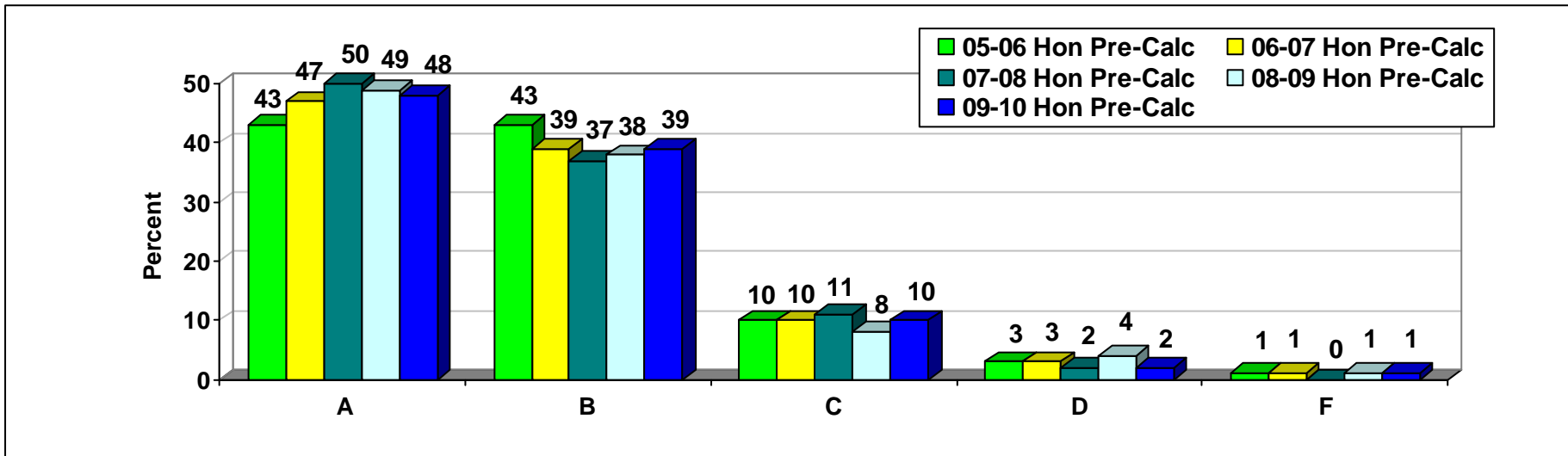
The 2009-10 school year was when the majority students from the Class of 2011 took Algebra 2. Prior to that year, students would self select Algebra 2 if they needed it for college entrance and course selection. Honors Algebra 2 for the last two years has seen a decline in the number of As given with a coinciding rise in the number of Bs awarded. This course was designed for students considering advanced mathematics courses in high school and beyond.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### Pre-Calculus



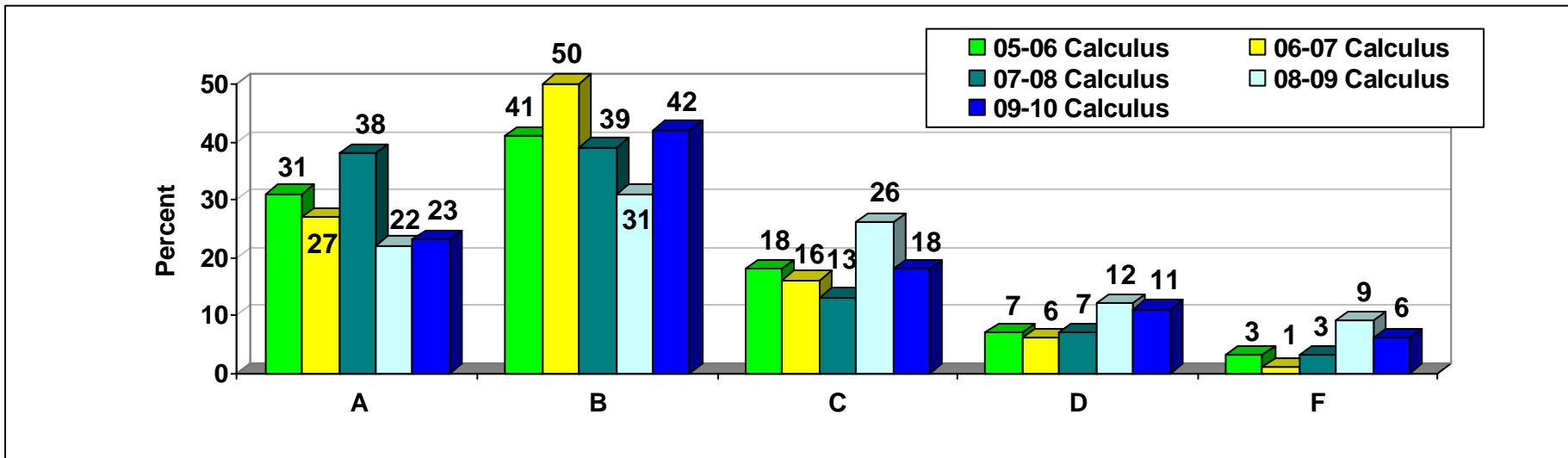
### Honors Pre-Calculus



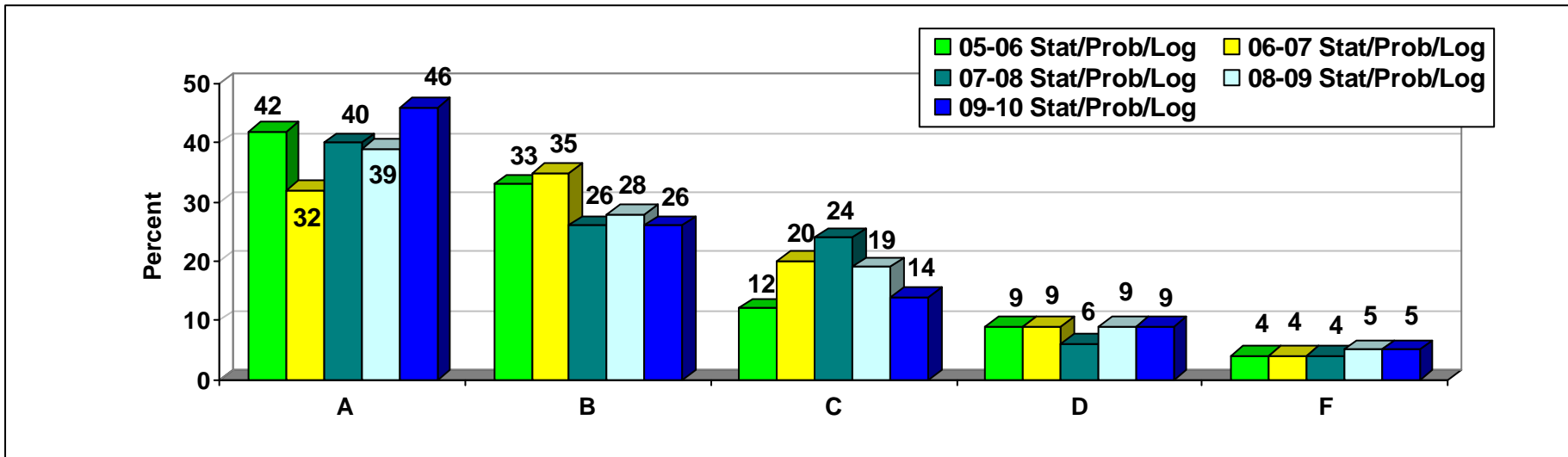
Students taking both Pre-Calculus and Honors Pre-Calculus experience fewer As during the 2005-06 and 2006-07 school years. The following years show an increase number of As awarded. Students receiving Cs, Ds and Fs for Pre-Calculus declined and for Honors Pre-Calculus, Cs, Ds and Fs have remained stable.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### Calculus



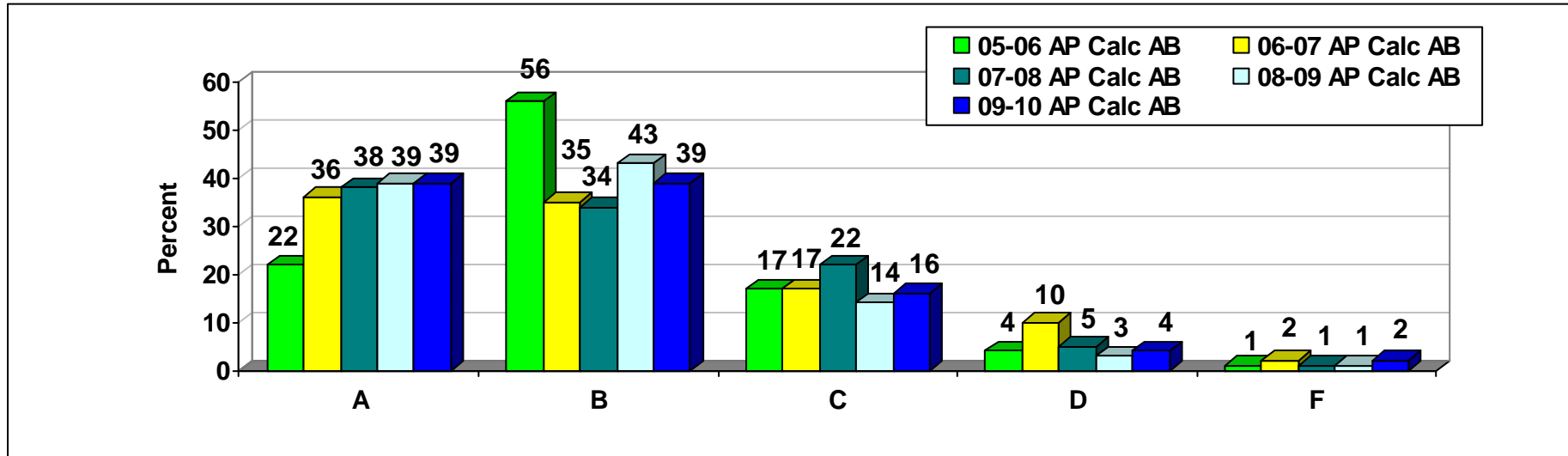
### Statistics, Probability and Logic



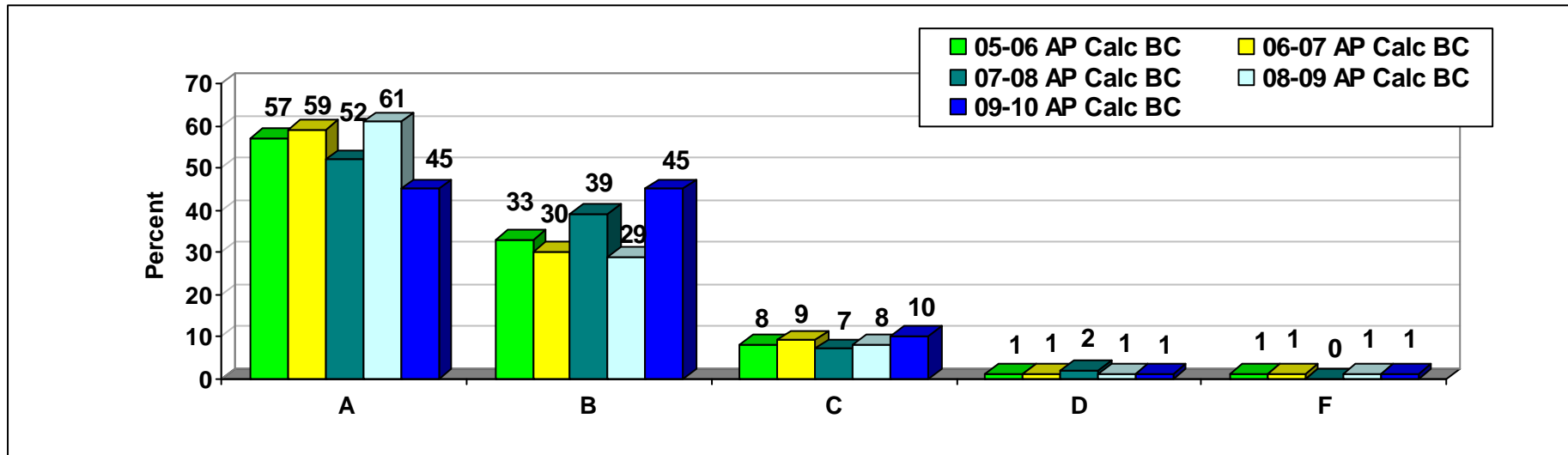
Grade data for Calculus indicate fluctuations across all years. This is, in part, due to a decline in the number of students participating in Calculus. Higher level mathematics students tend to enroll in AP Calculus AB or AP Calculus BC. Calculus district-wide enrollment ranged from a high of 144 in 2006-07 to a low of 65 in 2009-10. Statistics, Probability and Logic enrollment has steadily increased over the last five years from 178 (2005-06) to 420 (2009-10). This will increase as students enroll to meet the graduation requirements for all twelfth graders to take mathematics. Data represents an increase in As, decrease over last two years in Cs while Ds and Fs have remained stable.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### Advanced Placement Calculus AB



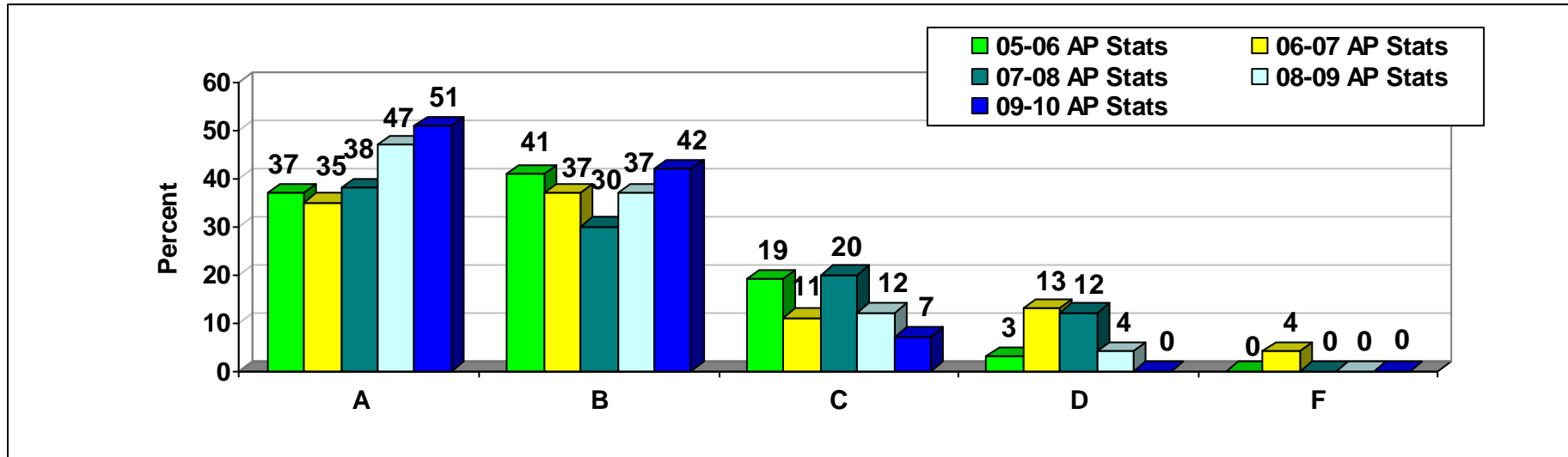
### Advanced Placement Calculus BC



Beginning with the implementation of trimesters, 2007-08, AP Calculus AB was taught in two trimesters and AP Calculus BC was taught in three trimesters. An exception occurred at Harrison High School for the 2009-10 school year wherein AP Calculus AB was taught over three trimesters. Advanced Placement exam data from Harrison will be monitored when this year's AP results come out in July.

## Longitudinal High School Grade Data – 2005/06 to 2009/10 School Years

### Advanced Placement Statistics



This course was designed to prepare students for the AP Statistics Exam. Enrollment have average 90 students over the last five years. Over the last two years, we have found an increase in the number of As and Bs with a coinciding drop in the number of Cs, and Ds with no Fs over the last three years.