Superintendent’s Report: STEM Realignment
February 20, 2018

Dr. Thomas Ficarra | Interim Superintendent of Schools
Access & Equity

“The Board encourages students to challenge themselves by pursuing courses with the highest academic rigor that will prepare them for success in college or the workforce.”

Board Policy
Normed Assessments

- Data warehouse to monitor assessments and student growth
- Multiple measures on-site targeted instruction
- District’s normed assessments: PARCC for Math & NJBCT for Biology
PARCC Achievement Scale

- Not Yet Meeting Expectations (Level 1)
- Partially Meeting Expectations (Level 2)
- Approaching Expectations (Level 3)
- Meeting Expectations (Level 4)
- Exceeding Expectations (Level 5)
Algebra I PARCC 2017: CHS

- Not Meeting: 69.0%
- >=Meeting: 31.0%
Algebra I: PARCC Pass Rates by Levels & Sub-Groups - 16/17

- Level 2 (27 St.): 0% African American, 0% White, 0% Other
- Level 3 (81 St.): 5% African American, 7% White, 0% Other
- Level 4 (146 St.): 42% African American, 70% White, 67% Other
Geometry PARCC 2017: CHS

- Not Meeting: 61.0%
- >=Meeting: 39.0%
Geometry: PARCC Pass Rates by Levels & Sub-Groups - 16/17

The diagram shows the percentage of students meeting or exceeding expectations at Level 2, Level 3, Level 4, and Level 5, categorized by ethnic groups: African American, White, and Other. The percentages are:

- Level 2 (36 St.): 0% 0% 0%
- Level 3 (33 St.): 0% 0% 0%
- Level 4 (66 St.): 48% 30% 14%
- Level 5 (79 St.): 80% 67% 71%

The legend indicates that:
- Blue represents African American.
- Red represents White.
- Yellow represents Other.

The percentages for African American at Level 4 are 48%, at Level 5 are 80%.}

{The numbers in the diagram are placeholders and need to be replaced with actual data.}
Geometry

- Sixty-five (65)% of all African American students taking Geometry at CHS in 2016-17 were assigned to Levels 2 or 3.

- None of the students in Levels 2 or 3 met or exceeded expectations on Geometry PARCC 2017.
Algebra II PARCC 2017: CHS

- Not Meeting: 40.0%
- >=Meeting: 60.0%
Algebra II: PARCC Pass Rates by Levels & Sub-Groups - 16/17
Biology NJBCT 2017: CHS

- Not Meeting: 26.0%
- \(\geq\) Meeting: 74.0%
Biology: NJBCT Pass Rates by Levels & Sub-Groups - 16/17
2016-17 Math Levels, 6-12

Middle School Math Recommended Paths

Courses for 6th Graders
- Gr. 6
- Gr. 6 Honors
- Gr. 7
- *Gr. 7 Honors

Courses for 7th Graders
- *Gr. 7 Algebra I
- *Gr. 9 Algebra I

Courses for 8th Graders
- *Gr. 9 Algebra I
- *Gr. 10 (L5) Geometry

High School Math Recommended Paths

Courses for 9th Graders
- Algebra I L2
- Geometry L3
- Algebra II L3

Courses for 10th Graders
- Algebra I L3
- Geometry L4
- Algebra II L4

Courses for 11th Graders
- Algebra II L5
- Pre-Calculus L5

Electives
- College Prep Math L2
- Supplemental Math L3
- Precalculus L3
- Precalculus L4
- Intro to Calc. L3
- Calc. Honors L4
- AP Calculus AB L6
- AP Statistics L6
- AP Calculus BC L6
- AP Statistics L6
- Advanced Topics L5
- Comp Sci AP L6
- Calculus AB/BC L2

NJSIAA Graduation Requirements
Three years of mathematics and successful completion of...
- Algebra I
- Geometry
- Algebra II

CSI Level Descriptions
L2 Common Core/Foundations
L3 Common Core
L4 Honors
L5 Advanced Honors
L6 Advanced Placement (AP)
2016-17 Math Levels, 6-8

Courses for 6th Graders
- Gr. 6
- Gr. 6 Honors

Courses for 7th Graders
- Gr. 7
- Gr. 7 Honors

Courses for 8th Graders
- Gr. 8
- Gr. 8 Honors
- *Gr. 9 Algebra I
- *Gr. 10 (L5) Geometry

Coming From Gr. 5

* The courses meet the New Jersey high school graduation requirements for Algebra I and Geometry. Students must take the Algebra I and Geometry PARCC tests the year of taking each course. Course content and PARCC tests address Common Core Standards for high school Algebra I and Geometry. Columbia High School credit is awarded for successful completion of Geometry.
2016-17 Math Levels, 9-12

Courses for 9th Graders
- Algebra I L2
- Algebra I L3
- Algebra I L4
- Geometry L4
- Geometry L5
- Algebra II L5

Courses for 10th Graders
- Geometry L2
- Geometry L3
- Geometry L4
- Algebra II L4
- Algebra II L5
- Pre-Calculus L5

Courses for 11th Graders
- Algebra II L2
- Algebra II L3
- Algebra II L4
- Precalculus L4
- Precalculus L5
- Comp Sci A AP L6
- AP Calculus AB L6
- AP Calculus BC L6
- AP Statistics L6

Electives
- College Prep Math L2
- Supplemental Math L3
- Precalculus L3
- Precalculus L4
- Intro to Calc. L3
- Calc Honors L4
- AP Calculus AB L6
- AP Calculus BC L6
- AP Statistics L6
- Advanced Topics L5
- Comp Sci Princ: AP L6
- Calc 3/Linear Algebra L3

NJ/CHS Graduation Requirements
Three years of mathematics and successful completion of...
- Algebra I
- Geometry
- Algebra II

CHS Level Descriptions
- L2: Common Core/Foundations
- L3: Common Core
- L4: Honors
- L5: Advanced Honors
- L6: Advanced Placement (AP)
Proposed Math Program, 6-12

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<thead>
<tr>
<th>Middle School Math Courses &amp; Pathways</th>
<th>High School Math Courses &amp; Pathways</th>
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<tbody>
<tr>
<td>6th Grade</td>
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*In 10th and 11th grade, students may select Honors or Grade Level courses in Geometry and Algebra II. (See the Sample Options Chart for possible course options)*
Sample of Possible Options

These are some of the possible options; there are many others.
2016-17 Science Levels, 9-12

South Orange and Maplewood School District Secondary Science

Courses for 9th Graders
- Biology L3
- Physics L4
- middle school science Gr. 6, Gr. 7, Gr. 8

Courses for 10th Graders
- Biology L3
- Physics L4

Courses for 11th Graders
- Chemistry L2
- Physics L5

Electives
- Forensic Sci. L3
- Astronomy L4
- Biochemistry L4
- Physics II L4
- Environmental Sci. L4
- Senior Bio. L5
- AP Biology L6
- AP Env. Sci. L6
- AP Physics L6
- Sci Research III L4

NJ/CHS Graduation Requirements
- Three years of science and successful completion of...
  - Biology
  - Physics
  - Chemistry

CHS Level Descriptions
- L2 Common Core/Foundations
- L3 Common Core
- L4 Honors
- L5 Advanced Honors
- L6 Advanced Placement (AP)
Proposed Science Program, 9-12
What are the Immediate Next Steps?

- Timeline for Guidance Implementation
- Monitoring scheduling while in process
- Publish revised Course Offering Guides and implement revised placement and scheduling process
- Collaborative Budget development meetings
  - Ongoing Professional Development
  - Researched-Best Practices
  - Student Supports/Interventions Resources (summer school, technology, class size, etc.)
  - Staffing needs
- Curriculum implementation, monitoring, and vertical articulation
What is the Guidance Timeline For Implementation?

**Jan & Feb:** Individual meetings for each 11th grader with assigned CHS guidance counselor.

**Feb. 22-28:** Grade level meetings to discuss course selection process. **Students bring home the directions for the online course registration process.**

**Feb 26:** Student Academic Summary Available in Parent Portal in PowerSchool for students in grades 8-11.

**Feb 26:** Transition to High School Meeting for parents/guardians of 8th graders at 7 PM at SOMS Auditorium.

**Feb 27:** 9th Grade Parent/Guardian Meeting to Review the Course Selection Process at 7PM in CHS Library.

**Feb 28:** 10th Grade Parent/Guardian Meeting to Review the Course Selection Process at 7PM in CHS Library.

**March 1:** 11th Grade Parent/Guardian Meeting to Review the Course Selection Process at 7PM in CHS Library.

**March 3:** Community Presentation on Course Selection Process. Location/time TBD.
What is the Guidance Timeline For Implementation?

March 5-19: **Online Course Registration** - Students and parents/guardians select courses for 2018-19 school year.
March 5-19: **Students return print-out of requested courses** to school counselor once online registration is complete.
March 5-9: Middle School Counselors meet with 8th graders in small groups and High School Counselors meet with 10th graders in small groups.
March 12-16: High School Counselors meet with 9th graders in small groups.
Spring 2018: Students receive a tentative schedule for the 2018-19 school year to review with parents/guardians. This will include directions on how to address possible errors and/or request an additional class.
Spring 2018: Summer assignments posted on district website.
Spring 2018: Summer school information posted on district website.
Summer 2018: Students receive their final schedule for the 2018-19 school year.
Frequently Asked Questions
Do We Have Enough Time?

February to September

- Collaboration with Stakeholders
  - Parents
  - Students
  - Teachers
  - Administrators
  - Community
- Budget Development/Resource Allocation
- Curricula Review
- Professional Learning Communities & Ongoing Professional Development
- Planning with Teachers
- Summer Enrichment Program
- Assessing Staffing Needs
Are We Sacrificing Pedagogy to Reduce Levels?

- Promote researched-based practices
- Expand pedagogical approaches to address diverse learners
- Differentiate instruction
- Integrate technology
- Implement common assessment practices
- Utilize data-driven instruction
- Assess K-5 & 6-8 curriculum implementation and professional development
Are We Sacrificing Rigor to Reduce Levels?

- Maintain rigorous learning environments
- Still have all AP, Honors, and post-AP (Math only) courses:
  - AP Calculus AB
  - AP Calculus BC
  - AP Statistics
  - AP Computer Science
  - Honors Calculus
  - Advanced Topics in Mathematics
  - Calculus 3
  - Linear Algebra
  - AP Biology
  - AP Chemistry
  - AP Physics
  - AP Environmental Science
  - Forensic Science Honors
  - Astronomy Honors
  - Biochemistry Honors
  - Physics II Honors
  - Environmental Science Honors
  - Senior Biology Honors
  - Science Research Honors I, II, III

- Current Levels 2 and 3 courses are not meeting standards-based curriculum expected by State Department of Education.
What is the Best Course for My Child?

1. How does the course selection process relate to the Access and Equity option to select any course level?

2. My child doesn't like mathematics. If he/she takes grade level courses, will they still be ready for college?

3. My child has accommodations with a Section 504 Plan. Will this limit math level opportunities?

4. My child loves math, but doesn't always test well. How should we make a course decision?
What are the Logistics of Selecting Courses?

5. Will my child be locked into a mathematics path based on their 6th grade math selection?

6. How will summer school support my child?

7. What courses are included on the high school transcript? What courses are included in the high school GPA calculation?