

Curriculum Committee Meeting

Wednesday, November 13, 2019 9:00 AM

Central Office Conference Room, 24 School Road, Weston, CT 06883-1623

I. **Call to Order**

II. **WHS Course Enrollment Report for 2019-20**

III. **NGSS Science Results for Grades 5, 8, and 11**

IV. **Information on the Concept of Universal Pre-school**

V. **K-5 Math CIL Restructuring**

VI. **Approval of October 2019 minutes**

VII. **Other curricular issues**

Weston High School
Providing a Diverse Program of Studies and Maximizing Staffing Efficiency
November 13, 2019

Background

This is a report prepared for the WPS Curriculum Committee to explain how the high school administration determines which courses to run, in order to balance the desire for a diverse program of studies and an efficient use of our staffing resources.

Weston High School offers a broad range of courses and many different opportunities for students to explore their area(s) of interest and pursue their individual passions. These course sequences are an essential part of the student profile when applying to college. In addition to the core academic course sequences in English, math, social studies, and science, the high school offers:

- Four year programs in four different world languages: Spanish, French, Chinese, and Latin.
- Project Lead the Way, a four-year engineering program.
- A three-year course sequence in computer science, including two AP courses.
- Multiple four-year pathways in the visual arts, culminating in AP Studio Art.
- A two-year sequence in videography.
- Multi-level ensembles in choral, instrumental, orchestral, and jazz music.
- A four-year course sequence in health and physical education.
- Courses in psychology, economics, environmental science, and statistics offered at both the standard and AP Levels.
- Elective options in interest areas including forensics, personal finance, creative writing, and music technology.

A total of 138 different courses are currently running in 2019-20. This range of offerings exists in a small school environment of only 800 students, which is significantly smaller than every other high-achieving public high school in our area. This results in many courses that have only one or two sections, presenting a challenge to some students when selecting their preferred programs.

The Scheduling Process

Course Selection:

The process begins approximately nine months in advance of the school year. Each year in November and December, the high school leadership revises the Program of Studies document. The administration examines course offerings, and removes courses that have had low enrollment in recent years. New courses may be proposed by curriculum instructional leaders (CILs) and, if approved, added to the program. When that document is finalized, the student component of the course selection process begins in early January. Students choose courses online, and then meet individually with their counselors in February. If students

would like to take a course for which they were not recommended, they can complete a course placement change request. Students' course requests are finalized by early April.

Determination of Sections:

In early April, when the number of requests for each course is finalized, the high school administration determines how many sections of each course to run. For most courses, the goal is an average of 20-24 students in each section. For core academic courses with enrollments of 80 or more students (e.g. English 9), this is easily accomplished. For courses with enrollments of 50 or less, this is difficult. School administration makes decisions, given various factors, about which courses to run and how many sections to offer. This results in some large sections (e.g. a decision to run one section of 26 students rather than two sections of 13), and some small sections (e.g. a decision to run two sections of 14 rather than one section of 28). The rationale for some of these decisions is given in the sections below.

Building the Master Schedule:

Once administration has determined which courses to offer, the number of each section to offer, and who will teach each section, the master schedule is built. The goal of this multi-step process is to maximize the number of fulfilled course requests.

Conflict Resolution:

In late May and June, and continuing through the summer and the first week of the school year, students meet with their counselors to resolve conflicts in their schedule. On average, 30% of WHS students have conflicts. While some are easily resolved, others may necessitate the student making a choice (e.g. Chinese 4-H or AP Computer Science Principles). Inevitably, course enrollments change as conflicts are resolved.

Courses that Did Not Run in 2019-20

At two points during the scheduling process, WHS Administration makes decisions about which courses not to run: before students select courses, and after analyzing student request data.

Before Course Selection:

Some courses are dropped from the Program of Studies each year. This is a natural cycle, as sometimes courses which used to have high enrollments diminish over time due to changes in curriculum, graduation requirements, or changes in student interest. In 2019-20, the following courses were not offered that had been offered in previous years:

- Algebra 1a and 1b
- Probability and Statistics
- Trigonometry
- Publication Design
- Drama and Advanced Drama

In addition, courses are sometimes refreshed. For example, modifications were made to the TV Production course and it was renamed Sports Journalism and Broadcasting.

After Course Selection:

Courses that have very few requests do not run. In 2019-20, the following courses did not run due to low student requests:

- AP Computer Science A (4 requests)
- Multivariable Calculus (2 requests)
- Music Theory (1 request)
- AP European History (3 requests)

For some courses, it makes sense to offer the courses on an alternating year basis. For example, AP Computer Science A and AP Computer Science Principles may be offered in alternating years. Likewise, Music Theory and AP Music Theory may run alternate years. These decisions are made during the scheduling process.

Future Decision Making - Blended Courses:

Another option for certain courses could be to offer a blended course, in which the students enroll in an online course but also attend class. The teacher supports their online coursework and supplements the online course with additional lessons. This requires a great degree of student independence, and is only effective for high-level courses. Depending on the course, students may attend the class every day, or they may attend less and be expected to complete more work independently. This model is currently in use for AP Computer Science, and is being considered for Multivariable Calculus in 2020-21.

Analysis and Explanation of Sections with Fewer than 16 Students**Notes:**

Special Education, Structured Study, and the alternative English and history classes are not included in this report.

"Technology" is not its own department at WHS. Computer coding classes are part of the math department, and engineering classes are paired with science. However, since coding and engineering are elective programs, for the purposes of this report they are separated from the math and science departments and combined as "technology".

General Characteristics:

There are 65 sections with fewer than 16 students. This represents 18% of the 362 sections running at WHS in 2019-20. Twenty-one of these are semester courses, and 44 are year-long courses. Breaking it down further, of these 65 sections:

- 11 have under 10 students
- 11 have 10-11 students
- 20 have 12-13 students
- 23 have 14-15 students

Department breakdown:

Department	Number of Courses Running	Number of Sections Running	Number of Sections Under 16	Sections Under 16 as a Percentage of Total Sections in that Department
PE/Health	8	72	0	0%
Social Studies	14	57	6	11%
Mathematics	14	41	6	15%
English	14	43	7	16%
Performing Arts	13	12	2	17%
Science	16	46	10	22%
Visual Arts	23	40	13	33%
Technology	9	14	5	36%
World Language	27	37	16	43%

The subject areas with the greatest percentage of small sections are our elective courses (visual arts, technology, and world language). Even in the four core academic subject areas, many of the small sections are in elective courses (e.g. film studies in the English department). This is predictable in broad terms; the scheduling process inevitably causes courses to lose students due to conflicts, and it is more likely that a student will choose to drop an elective than a core academic course. What is unpredictable, however, is exactly which courses will lose students, as it is dependent on the construction of the master schedule.

Singletons, doubletons, and combined courses:

WHS is running 138 different courses this year, and a total of 362 sections. This computes to an average of 2.6 sections per course.

A primary objective of the WHS administration is to preserve its diverse program of studies. In order to do so, many courses run that only have one or two sections (known as singletons and doubletons). In addition, low enrollment courses are combined when possible and appropriate for the curriculum. In 2019-20 there are 13 sections with multiple courses running in the same room at the same time with a single teacher.

Section Type	Total Number of Sections	Number of Sections with Fewer than 16 students	Percentage of Sections fewer than 16 students
Singleton	38	19	51%
Doubleton	64	18	29%
3+ Sections	260	28	11%

Courses with...	Number of Courses	Percentage of Total Courses
One section	46	33%
Two sections	36	26%
Three or more sections	56	41%

59% of all courses at WHS have only one or two sections. This results in a high percentage of sections with fewer than 16 students for multiple reasons:

- Administration is more likely to run a small singleton course if it is a required part of a larger sequence or the most advanced course in a sequence. For example, Latin 3-H has 14 students, and AP Physics C has 10 students.
- Many scheduling conflicts inevitably result from singletons and doubletons. Often there is no resolution, and enrollment drops.
- When just two sections of a course are offered, a small section often results due to scheduling. For example, enrollments in the two sections of French 3 this year are 21 and 8. This is particularly common in world language, where four languages are offered in a relatively small high school; therefore there is often only one or two sections of each course.

The table below lists the combined courses at WHS in 2019-20:

Combined Courses	Section Type
PLTW Principles of Engineering & Principles of Engineering-Honors	Singleton
Sculpture & Advanced Ceramics	Singleton
French 4 & French 4-Honors	Singleton
French 5 & AP French 5-Honors	Singleton
Spanish 6 & AP Spanish 6-Honors	Singleton
Chinese 3 & Chinese 3-Honors	Singleton
Chinese 4 & Chinese 4-Honors	Singleton
Latin 4 & AP Latin 4-Honors	Singleton
PLTW Civil Engineering and Architecture & Civil Engineering and Architecture-Honors	Doubleton
Studio Art & AP Studio Art-Honors & Advanced Drawing	Doubleton
Music Technology & Music Technology 2	Doubleton

Other factors leading to sections with fewer than 16 students:

Often when multiple sections of a course are offered, one section will end up small for scheduling reasons. For example, in 2019-20 the enrollments in the five sections of CMD are: 24, 23, 23, 20, and 13.

Honors courses sometimes lose students over the summer or early in the school year, which can result in inefficiencies. For example, AP US History had 98 students registered in the spring. If four sections were run, each section would have had 24-25 students, with no room for additional enrollees (transfer students).

Therefore it was decided to run five sections. However, AP US History lost students, and now there are 85 students in five sections (avg. 17 per section), one of which only has 11 students.

- When this occurs, “flipping” a section is considered. For example in 2018-19 a section of Algebra 1 flipped to Accelerated Algebra-Geometry as enrollment dropped in the former and increased in the latter. Flipping sections is difficult, however, as it is constrained by teacher availability, their number of preps, and student schedules.

Some courses are deliberately small due to the nature of the course or the enrolled students. For example, Science Research-Honors has 11 students, which is appropriate for this course. Another example is a section of Algebra 2 that has 15 students, to provide a greater teacher-to-student ratio for this group of students.

List of All Sections with Fewer than 16 students

The table below shows all of the sections in 2019-20 with fewer than 16 students. It is sorted by increasing class size, and offers explanations for each section. Note that there are some courses with two sections under 16 students.

Course Name	Section Size	Dept.	Term	Notes	Singleton/ Doubleton
Advanced Crafts	6	VPA	Sem	Second course in a sequence.	Singleton
Journalism	8	LA	Sem	Elective.	Singleton
Adv. Video	8	VPA	Year	Third course in a sequence.	Singleton
French 3	8	WL	Year	Other section has 21.	Doubleton
Spanish 1	8	WL	Year	First course in the sequence.	Singleton
Video 2 (two sects <16)	8 & 12	VPA	Sem	Lost many students during scheduling (37 had requested).	Doubleton
PLTW CIM (two sect <16)	8 & 13	TECH	Year	Other section is 17.	
Chinese 1 (two sects <16)	9 & 12	WL	Year	Lost many students during scheduling (26 had registered).	Doubleton
Adv. CMD (two sections <16)	9 & 13	VPA	Sem	Second course in a sequence.	Doubleton
PLTW Architecture (Std & Hon)	9	TECH	Year	Other section is 18. Max enrollment is 18.	Doubleton
Photo 2	9	VPA	Sem	Other section is 18. Max enrollment is 18.	Doubleton
AP Physics C	10	SCI	Year	Highest level course.	Singleton
Adv. Cer./Sculpture (combo)	10	VPA	Sem	Second course in a sequence.	Singleton
Spanish 4-H	10	WL	Year	Other section has 16.	Doubleton
French 5/AP French (combined)	10	WL	Year	High-level course.	Singleton
Chinese 4/4H (combined)	10	WL	Year	High-level course.	Singleton
Science Research - H	11	SCI	Year	This is an appropriate class size for this course.	Singleton
AP US History	11	SS	Year	Other sections have 16, 16, 20, 22.	
Intro to Coding	11	TECH	Sem	Other sections have 16, 21.	
Adv. Photo	11	VPA	Sem	Third course in a sequence.	Singleton
Spanish 5-H	11	WL	Year	Other section has 20.	Doubleton
Latin 2	11	WL	Year	Other sections have 16, 23.	

(Continued)

Course Name	Section Size	Dept.	Term	Notes	Singleton/ Doubleton
Creative Writing	12	LA	Sem	Other section has 21.	Doubleton
AP Chemistry	12	SCI	Year	Highest level course.	Singleton
Drawing 2	12	VPA	Sem	Second course in a sequence.	Singleton
Photo 1	12	VPA	Sem	Other sections are 16, 18, 19. Max enrollment is 18.	
Video 1	12	VPA	Sem	Other sections have 18, 20, 20. 20 is max enrollment.	
Algebra 2H (two sections <16)	12 & 14	MATH	Year	Other sections are 17 and 23. 13 students dropped hon to std.	
Modern World-H (two sections <16)	12 & 14	SS	Year	Other sections are 19 and 23. 6 students dropped hon to std.	
Spanish 2 (two sects <16)	12 & 15	WL	Year	A single section would have 27.	Doubleton
Animal Behavior (two sections <16)	13 & 14	SCI	Sem	Other section has 19.	
English 9-H	13	LA	Year	Other sections have 19, 20.	
Algebra 2	15	MATH	Year	A small section for students requiring greater teacher-to-student ratio.	
AP Macroeconomics	13	SS	Sem	Other section has 24.	Doubleton
AP Computer Science Principles	13	TECH	Year	High-level course.	Singleton
CMD	13	VPA	Sem	Other sections have 20, 23, 23, 24.	
French 2	13	WL	Year	Other section has 19.	Doubleton
Spanish 5-H	13	WL	Year	Other section has 18.	Doubleton
Latin 1	13	WL	Year	Other sections have 22, 22, 22.	
Composition Seminar	14	LA	Sem	A small section for students requiring greater teacher-to-student ratio.	Singleton
Precalc-H	14	MATH	Year	Other sections are 21, 22. 5 students dropped hon to std.	
Physics-H	14	SCI	Year	Other sections are 20, 23.	
Intro to Econ	14	SS	Sem	Other sections have 14, 16, 21.	
Music Tech/Music Tech 2 (combined)	14	VPA	Sem	Music Tech 2 is second course in a sequence.	Doubleton
Latin 4/AP Latin	14	WL	Year	High-level course.	Singleton
Latin 3-H	14	WL	Year	Latin 3 has 17.	Singleton
Film Studies	15	LA	Sem	English Elective.	Singleton
Public Presentation	15	LA	Sem	English Elective.	Singleton
English 12	15	LA	Year	Other sections have 20, 22.	
Algebra 1	15	MATH	Year	Other section has 20.	
Geometry	15	MATH	Year	Other sections have 16, 20, 21.	
Forensics	15	SCI	Sem	Other sections have 22, 24.	
Chemistry	15	SCI	Year	A small section for students requiring greater teacher-to-student ratio.	
Environmental Science	15	SCI	Year	Other sections have 19, 20.	
Physics	15	SCI	Year	Other sections are 22, 24.	
AP US Government	15	SS	Year	Other sections have 17 and 18.	
AP Music Theory	15	VPA	Year	High-level course.	Singleton

Weston Public Schools
Next Generation Science Standards
Performance Levels Grades 5, 8 & 11
May 2019

Grade	Number Tested	% Level 1 Not Met	% Level 2 Approaching	% Level 3 Met	% Level 4 Exceeded	% Level 3 and Above
5	176	3	7	55	35	90
8	189	5	16	56	23	79
11	184	4	13	55	28	84

Weston Public Schools



MICHAEL RIZZO
*Assistant Superintendent of Pupil
Personnel Services*
michaelrizzo@westonps.org

24 School Road
Weston, Connecticut 06883-1699

Tel. 203-221-6583
Fax 203-403-2014

TO: Ken Craw, Assistant Superintendent for Curriculum and Instruction

FROM: Michael Rizzo, Assistant Superintendent for Pupil Services

DATE: November 13, 2019

RE: Universal Preschool in the Weston Public Schools

The Curriculum Committee has asked for a preliminary analysis of the cost and considerations of offering Universal Preschool for Weston residents. For the purpose of this memorandum, Universal Preschool is being defined as preschool education for all Weston residents ages 3 and 4, at no cost to the family with program hours mirroring our current Early Learning Center of 8:30-1:15 PM.

By way of background, Weston's current preschool, The Early Learning Center, currently has 3 classrooms and accommodates approximately 30 students, with an intended ratio of 50% students with disabilities and 50% students without disabilities. Referrals throughout the school year from a variety of sources cause class size and ratios to change. Each classroom is led by a certified teacher and is supported by a paraeducator. Tuition for students without disabilities is \$6,250 per year.

The Milone and Macbroom 10-year Projections (Medium) presented in the 2019-20 budget process reflect approximately 120 three and four year old children residing in Weston to start the 2020-21 school year. Applying generally accepted guidelines for staffing and class size at the preschool level and consistent with our current practices, this would require approximately 9 classrooms each staffed with one classroom teacher and one paraeducator. With an estimated cost of \$90,000 and \$60,000 respectively, the staffing cost would be approximately \$1,350,000.

Other considerations for the Curriculum Committee include:

- Program hours and ages of students served
- Transportation
- Impact on local preschools
- Partnerships with universities
- Program accreditation

Weston Public Schools

Empowering Each Student to Achieve Success and Contribute to Our Global Society

I look forward to discussing the possibility of this initiative at the upcoming Curriculum Committee meeting.

**Weston Public Schools
K-5 Math CIL Structure
Draft - November 13, 2019**

The current CIL model has been in effect for over 10 years. It was last reviewed in 2017 as part of a comprehensive study commissioned by the district and conducted by Noe Medina of Educational Policy Research. The Board was provided with a copy of this study earlier in the year as background information regarding the essential functions that these position serve in our system in supporting teaching and learning.

CILs provide teachers with ongoing coaching and training, as well as perform other functions related to curriculum coordination and development. While the overall CIL model continues to be effective, an adjustment to the allocation of FTE for math CIL time at the K-5 level is required in order to provide teachers with the support needed to improve student math performance.

Currently, the district allocates a total of 2.0 FTE for CIL support for literacy, math and science as delineated below.

K-5 CIL Structure (Current)			
Subject	HES	WIS	Total K-5 Support
Literacy (Rdg, Writing, SS)	.50 FTE (Andrea Noble)	.50 CIL (Alex Bluestein)	1.0 FTE
Math	.25 FTE (Carolyn Vinton)	.25 CIL (Carolyn Vinton)	.50 FTE
Science	.25 FTE (Carolyn Vinton)	.25 CIL (Carolyn Vinton)	.50 FTE
Total	1.0 FTE	1.0 FTE	2.0 FTE

The model for literacy, with one CIL stationed at HES and the other at WIS, is working effectively; however, there are several challenges with the current allocation of resources for math and science. Below are several reasons why augmenting the CIL FTE for math is warranted at this time.

1. Math performance – While overall performance in math is solid, we have identified areas in need of improvement (e.g. SBA, achievement gap) that require more time and support from the math CIL.
2. Curriculum renewal - The amount of FTE devoted to math and science is insufficient to provide the level of support that is needed for both subjects. Generally, there is only enough time for the CIL to focus primarily on supporting one subject during a curriculum renewal. For example, the CIL is currently focused on ensuring the successful implementation of the new science program at HES and WIS, but does not have enough time to fully support all of the math needs.
3. Content knowledge - Math and science are both areas where elementary teachers tend to have less content knowledge and comfort with the subject areas. This means coaching and professional development needs to focus on content in addition to pedagogy. Currently serving 42 classroom teachers and additional special education teachers across two buildings makes the

contact time available less than what is needed for both math and science. By comparison the ELA CILs service 21 teachers each and some additional special education teachers, which is a more manageable load.

4. Shifting instructional practice - Elementary teachers' comfort level and perceptions about math makes changing practice difficult without consistent and ongoing coaching. The type of coaching many teachers need involves co-planning and co-teaching, which is time intensive. Again, serving 42 teachers across two buildings for two subjects makes this difficult.
5. Concurrent math blocks - The student math blocks at HES and WIS tend to be scheduled at similar times during the day in both buildings for appropriate reasons. This reality limits the contact time availability for classroom work with the CIL. Having a math CIL devoted to each building addresses this issue.
6. Common Planning Times – CPTs in both buildings take place during the lunch blocks on Tuesday, Wednesday, and Thursday. This sometimes necessitates making a choice of which grade the CIL can be available to work with during a CPT. Again, having a math CIL in both buildings addresses this challenge.
7. Professional learning days - Formal professional time takes place on the same days and times for both buildings. This divides in half the availability of math and science CIL to facilitate adult learning at HES and WIS.

In order to address these issues, the FY21 budget will include a proposal to increase the CIL support for math by .4 FTE. The proposed structure is outlined below. The new .4 FTE CIL position for math at HES would be posted and paid in accordance with the WTA contract.

K-5 CIL Structure (Proposed)			
Subject	HES	WIS	Total K-5 Support
Literacy (Rdg, Writing, SS)	.50 FTE (Andrea Noble)	.50 CIL (Alex Bluestein)	1.0 FTE
Math	.40 FTE (TBD)	.50 CIL (Carolyn Vinton)	.90 FTE
Science	.25 FTE (Carolyn Vinton)	.25 CIL (Carolyn Vinton)	.50 FTE
Total	1.15 FTE	1.25 FTE	2.4 FTE

The cost of the additional .4 FTE position is approximately \$50,000. This includes the CIL salary, stipend, and the cost of four summer days. The leadership team will be looking for ways to mitigate this cost as we develop the FY 21 proposal and weigh the needs of the system.