

## ILT Minutes 11/18/20

Attendance: Ashley Morgan, Joe Gerth, Kathleen Keener, Ferd Schneider, Joseph Stewart, Denise Pfeiffer, Erin Kenney-Levin, Peter Riddle, Mike Sherman, Julie Vernon, Sara Mcguire-Jay, Samantha Bramlage, Jessica Smitson, Katie Sullivan, Laura Brogden, John Chambers, Patricia Morgan, Acacia Moraes Diniz, Heather Lloyd, Doreena Fox, Sandee Coats-Haan, Kasey Shao, Alan Barrett, Brian Sweeney, Rita Patel, Elizabeth Neil Thelen

Former minutes accepted By Denise P. Seconded by Sam B

15- yes, 0 – No, 0- abstain Minutes were **Accepted**

Ashley Morgan **Schedule E positions**- Josh Harden said longevity bonus will pick back up next year. HR and legal reviewing. Ashley said they are looking at definitions of student interest groups vs clubs. Ashley is developing a handbook for advisors. Erin commented that we aren't paying many clubs this year. How is it being decided who gets paid? Ashley said competitive teams and class sponsors and programming get paid. Kenney motioned to accept, Chambers seconded

17 – yes, 0 – no, 1- abstain, Schedule E Budget for 20-21 **Passes**

Vote to change exam week back to a normal schedule week since the district has mandated we will not give traditional exams this year.

19 – yes, 0 – no, 0 – abstain, Exam week will be a normal remote week **Passes**

Sullivan read proposal **to remove science classes from the honors block**. Stated 8H science grades are not a good indicator for how students will do in future science classes. Stewart added not many cross curricular opportunities for science and other two honors classes. Pretty much all departments supported totally eliminating honors but that is not what was brought before ILT. Someone needs to write up a proposal. A sub committee was formed to explore eliminating honors. Chambers said we should phase out 8 H one year and 9 H the next. A long discussion ensued. Ferd-we aren't voting on blowing up honors. Laura we should bring a proposal to ILT. Pfeiffer-data skewed toward zip code for keeping honors. Sweeney-Honors has never been a diverse group. Kenney-we don't have a proposal to eliminate honors. Ferd-voting on science is same as voting on honors. Laura-We've all talked to our departments already. Kenney We aren't voting on that today . Sweeney-we want 9<sup>th</sup> grade al a carte. Ashley what's the difference between AA and Honors. Kenney called time. Proposal sent back to departments. Brian seconded. Kenney proposal needs to be committee. Committee put names in chat.

Vote to send Science proposal back to departments.

Yes- 16, No – 0, Abstain – 1, **Proposal will go back to Departments.**

Volunteers to be on the committee - Katelyn Sullivan, Laura Brogden, Joseph Stewart, Denise Pfeiffer, Jessica Smitson, Sara Mcguire-Jay, Brian Sweeney, John Chambers, Acacia Moraes Diniz, Sara Mcguire-Jay

Ferd read proposal **to bring back Physics AA to curriculum**. Pfeiffer opposed essentially because the state standards have turned the class into a plug and play class. Students should learn the concepts. AP physics 1 hasn't even been around a full year. We should give it a chance. Kenney- some kids might want a plug and chug class. (I missed a lot here as I was dealing with a home crisis) Kenney-Levin send back to departments Pfeiffer 2<sup>nd</sup> voted back to departments.

Addition Kenney-Levin and Pfeiffer: Since this section of the document doesn't not fully capture the Science departments view of this proposal, in addition to the minutes we are submitting an explanation their point of view.

Yes – 15, No – 0, Abstain – 0, **Proposal will go back to Departments.**

Stewart **AP policy- Should students taking AP courses be required to take the AP exam?** Pfeiffer science says take test, math-take weight away if they don't take test, health-take weight off if no test, MEL take weight off, sarah mg social studies says encourage kids to take test, fine arts-change weight, classics-handbook says test is required English- we want to be positive not punitive with exam grade. Sarah mj-not a wide spread problem. Counseling- not wide spread. If a kid doesn't want to take, why force them? Library-no punitive measures but encourage students to take exam.

Sara McGuire-Jay's additions to the minutes: What I actually said about the AP exams was that the Social Studies department supported those who didn't take the exam having it affect their exam grade, not the GPA.

Pfeiffer –move to end meeting

Kenney-Levin Lots to discuss see you in December.

## Why AP Physics 1 is the Best Introduction Course for Walnut Hills Students

While the science department recognizes the fear that the name AP Physics strikes in students, parents, and some staff members, we feel strongly that AP Physics 1 is the best introductory course for our students. We give our explanation in the rationale below. We hope that you will take the time to read this document thoroughly, so you can join us in our quest to alleviate fear of this course. It is based on sound pedagogical principles and the expectation that all students can succeed. We also respectfully ask that if you cannot take the time to read the document thoroughly, that you defer to the judgement of those who have been teaching physics collectively for over 50 years.

Reason 1: A course based on the Ohio Learning Standards and Model Curriculum for Science<sup>1</sup> contains more content than the College Board's AP Physics 1 Curriculum<sup>2</sup>.

Any proposed Physics AA course would theoretically need to follow the Ohio Learning Standards and Model Curriculum for Science. A comparison of these standards with the AP standards should be made before proposing that course. You can find the full version of both at the links below.

While both courses are an algebra based treatment of physics, the high school Physics standards include everything in AP Physics 1, plus nuclear physics, electromagnetic waves, and magnetism. All three of those topics were moved to AP Physics 2 when Physics B course was split over 2 years (in Fall of 2014). To meet the state standards for physics, the course would have to be ACCELERATED to add these topics, not move at a slower pace. It is a false assumption that because the course being offered does not have an AP exam at the end that it would automatically be a less challenging course.

A side by side sample pacing guide is shown below. Please note that the additional time for each topic in the AP Physics 1 course is not there to allow for more minutiae, rather it is there to allow students to work slowly to develop a deeper conceptual understanding.

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<sup>1</sup> **Ohio's Learning Standards and Model Curriculum for Science – Physics (pp. 328-357)**

<http://education.ohio.gov/getattachment/Topics/Learning-in-Ohio/Science/Ohios-Learning-Standards-and-MC/SciFinalStandardsMC060719.pdf.aspx?lang=en-US>

<sup>2</sup> **AP Physics 1: Algebra-Based Course and Exam Description, Effective Fall 2020**

<https://apcentral.collegeboard.org/pdf/ap-physics-1-course-and-exam-description.pdf>

AP Physics 1		Ohio Standards Physics		AP Physics 1		Ohio Standards Physics	
Semester One				Semester Two			
Quarter 1		Quarter 1		Quarter 3		Quarter 3	
1	Constant Speed	1	Constant Speed	1	Momentum	1	Electrostatics
2		2		2			
3	Constant Acceleration	3	Constant Acceleration	3		Rotation	
4		4		4			
5		5	Forces, Static	5	5		
6	6	6					
7	Forces, Static	7	Forces, Dynamic	7	Circuits	7	Mechanical Waves
8		8		8			
9		9		9			
Quarter 2		Quarter 2		Quarter 4		Quarter 4	
1	Forces, Dynamic	1	Energy	1	Electrostatics	1	Electromagnetic Waves
2		2		2	Mechanical Waves	2	
3		3	Momentum	3		3	
4		4		4			
5	Energy	5	Rotation	5	Review	5	Nuclear Physics
6		6		6			
7		7	Circuits	7	AP Exams	7	
8		8		8	AP Exams	8	Review
9	Exams	9	Exams	9	Exams	9	Exams

Reason 2: The AP Physics 1 curriculum is better pedagogy based on the most current physics education research.

The College Board discontinued the AP Physics B course in the spring of 2014. There was a general recognition that it covered too many topics in a shallow manner. It did not result in deep, conceptual understanding. They replaced the

course with two consecutive year courses, AP Physics 1 and AP Physics 2. Much less material is covered in both of these individual courses than in their predecessor. The course and test are both designed based on the best practices as determined by the most prominent physics education movements, the Physics by Inquiry movement led by the Washington's Physics Education Group<sup>3</sup> and the American Modeling Teachers Association<sup>4</sup>.

AP Physics 1 is driven by critical thinking taught through student learning through labs and other hands-on experiences. These labs are likely different from what you experienced in your school days where you likely learned about a topic via lecture, then performed a cookbook lab to confirm the idea. Instead, students perform a paradigm lab at the beginning of a unit to develop a physical model for the phenomena they observe. For example, students plot the motion of a toy car to determine that objects with constant velocity have linear position versus time graphs and that displacement is velocity times duration. No one has to memorize that steeper graphs equal faster motion because they discover this for themselves. The old method of presenting an equation, then having students plug and chug to solve problems is universally recognized in the physics education community as not how students learn. However, teaching the course at the pace of the Ohio standards would require reliance on plug and chug techniques. It would force students to memorize a bunch of equations that would appear to them as completely unrelated concepts.

Reason 3: The reason AA Physics was created is no longer valid.

Walnut Hills AP Physics C and AP Physics 1&2 (formerly B) have been double bell courses for at least 30 years. As a double bell course, many students could not fit physics into their busy schedule, Physics AA was created to solve that problem.

After the College Board discontinued the B course, Walnut Hills was probably the only school in the country to teach AP Physics 1 and 2 together in a single year. This was at cross purposes to what the College Board was trying to achieve by creating the new courses and not consistent with how students learn physics (see above). It was agreed that it would be better for the students to have AP Physics 1 as a year long course and AP Physics 2 as a year long course. These courses are now taught as single bell courses. This eliminated the scheduling issue that originally necessitated AA Physics. As it was a better pedagogically designed course and slightly easier than AA Physics, we no longer saw the need to have both courses.

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<sup>3</sup> <https://sites.google.com/uw.edu/uwpeg/curricula/physics-by-inquiry>

<sup>4</sup> <https://www.modelinginstruction.org/>

Reason 4: We have not completed even a single normal year with the new physics courses.

The new (to Walnut) AP Physics 1 course has not had a full normal year. Last year was the first time the course was taught at Walnut. We ended the course in quarantine. This school year began with remote learning. There is no evidence that this will change any time soon. If it is difficult for students to learn material in a new environment in isolation, it is even more difficult in a course that has been designed to teach through hands-on, conceptual labs. So, it is not fair to judge student perception of the course in this environment.

The number of students taking any high school physics class has stayed relatively stable as we transitioned from AA Physics to AP Physics 1. In fact, the first year that the change occurred, we had to add two additional sections of physics. The numbers are down slightly this year, but it is doubtful that is a statistically significant change. Furthermore with fully remote learning, many of the students who would normally take physics are choosing to take mostly CCP courses to take advantage of the tuition cost savings.

Reason 5: WHHS's eighth grade students take High School Physical Science (not science 8 which is taught across the district), which teaches foundational material for all chemistry and AP Physics courses."

While our eighth grade students do take a course called Science 8, the standards that are taught in the class align with the Ohio standards for high school Physical Science. This course acts as an introduction to physics and chemistry, spending about a semester on each subject. The science junior high program is set this way because (1) the students are capable of that introductory high school level work as eighth graders (Physical Science is typically taught to ninth or tenth graders across the district) and (2) it prepares students for high school level classes like Chemistry, Chemistry AA, and AP Physics. Students already have the fundamentals of these subject areas, which puts them in a great place for success in their advanced coursework.

Additional Considerations:

- Chemistry and Chemistry AA reviews some Algebraic skills through the year that is used in AP Physics courses, continued use of applied math in science.
- One alternative is for students to take a CCP physics class if that lowers the pressure from AP. A disadvantage to this is if they do poorly in a CCP, it is on their college transcript unlike an AP test score.

- Supports are in place for students who struggle. The student just needs to communicate with their teacher. Such supports are class discussions, individual class work time, help sessions, peer tutors, etc.

### Conclusion

Physics AA is not an easier course than AP Physics 1. Alan and Sandee have taught both. They agree that AA physics is the harder of the two courses. Any student that meets the requirements for Physics AA should be able to handle AP Physics 1.

We strongly recommend keeping the program, as is. If parents and students are frightened by the label, teachers, counselors, and administrators need to work to educate those parents and students rather than affirming their fears.