

PROPOSAL TO ADOPT A TEXTBOOK

Proposal Request Information

Prior to filling out this form, please read the [Textbook Adoption Proposal Checklist](#) with pertinent policies regarding textbook adoption.

FOR DISTRICT USE ONLY FINAL COMMITTEE RECOMMENDED APPROVAL GRADE LEVELS:	9-12
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Section I

To be filled out by requesting educator:

Ia. REQUESTOR AND REVIEW TEAM INFORMATION

School	Legend High School	
Date	8/19/2024	
Requesting Educator	Richard Miller	
Email address	rmiller6@dcsdk12.org	
Phone number	303-387-4601 (LHS Library Media Center)	
Proposal Review Team Member	Reviewer's Name	Contact Information - email
District Coordinator	Tyson Emborg	temborg@dcsdk12.org
IT Representative	Joel Boeckmann	jnboeckmann@dcsdk12.org
Colleague	Stephanie Riddle	slriddle@dcsdk12.org
Parent	Christie Beermann	bcbeermann@msn.com

Ib. BOOK INFORMATION

Title of proposed text	College Physics for AP® Courses 2e
Author (s)	Wolfe, et al
Publisher	OpenStax
Edition	2nd
ISBN number	978-1-951693-61-9
Copyright date	7/9/2024

Course and/or subject area in which textbook will be used	AP Physics 1
Grade level(s)	09-12
Total cost for purchasing the textbooks? <u>See Checklist for Required Process</u>	Free, open access online textbook
Dates the textbook information was displayed at the school and posted on the school's website (2 week min.)	8/20/2024-9/20/2024
Date the textbook was communicated to the School Accountability Committee?	9/11/2024

Ic. RATIONALE

Please provide a brief rationale explaining your decision to include this text in the curriculum.

This textbook is a choice many Universities and High Schools are making because of its availability for free on-line and the importance of finding a resource that allows access regardless of a student's or school's financial situation. This textbook is aligned with the College Physics curriculum and provides a thorough exploration of the course.

Id. ALIGNMENT WITH DCSD'S GUARANTEED AND VIABLE CURRICULUM

Please write a detailed description of how the textbook aligns to DCSD's Curriculum - Colorado Academic Standards (CAS) and Essential Skills:

For Colorado State Standards this book is aligned to:

High School Physical Science

- SC.HS.1.1.b. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.
 - o *Chapters 4 and 5 discuss forces and momentum which have a brief discussion of the strength of internal forces.*
 - o *Chapters 6, 9, and 10 discuss rotational motion, which also has a discussion of the importance of internal forces.*
 - o *Chapters 18 through 22 discuss electricity and magnetism which gives a more formal background into the internal electromagnetic forces.*

- SC.HS.1.4.a Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.
 - o *Chapters 4 and 5 discuss Newton's Laws of Motion including Newton's 2nd Law.*

- SC.HS.1.4.b Use mathematical representations to support the claim that the total momentum of a system is conserved when there is no net force on the system.
 - o *Chapter 8 discusses linear momentum and its conservation. It further extends this discussion to non-conservative systems through the impulse-momentum theorem.*
 - o *Chapter 10 extends the discussion of conservation of momentum to rotational momentum.*

- SC.HS.1.4.c Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.
 - o *Chapters 4, 5, and 8 discuss forces and momentum, which are necessary concepts to design such a device.*

- SC.HS.1.5.a Use mathematical representations of Newton's Law of Gravitation and Coulomb's Laws to describe and predict the gravitational and electrostatic forces between objects.
 - o *Chapter 6 discusses Newton's Law of Universal Gravitation*
 - o *Chapter 18 discusses Coulomb's Law and the electrostatic interactions.*

- SC.HS.1.5.b Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electrical current.

- o Chapter 23 discusses induction, its causes, its effects, and uses.*

- SC.HS.1.6.a Create a computational model to calculate the change in energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.
 - o Chapter 7 discusses work and energy. This includes conservation of energy and the work-energy theorem.*
 - o Chapter 10 discusses rotational energy and its conservation.*
 - o Chapter 16 discusses the energy of harmonic oscillators and its conservation.*
 - o Chapter 19, 20, and 24 discuss electromagnetic energies and conservation including Kirchoff's Laws.*

- SC.HS.1.6.b Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motion of particles (objects) and the energy associated with the relative position of particles (objects).
 - o Chapter 7 discusses the mechanical potential energies.*
 - o Chapter 16 discusses the potential energy of oscillators due to the position of the oscillator.*
 - o Chapters 18 and 22 discuss electricity and magnetism which contain discussions on energies of charged particles as a function of position in an electromagnetic field.*

- SC.HS.1.7.a Create a computational model to calculate the change in energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.
 - o Chapter 7 discusses the mechanical energy and how to represent the energy and movement of energy through a system. The representations are mathematical, graphical, and pictographical.*

- SC.HS.1.7.b Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components of the system.
 - o Chapter 15 discusses thermodynamics and the process of equilibration.*

- SC.HS.1.8.a Develop and use a model of two object interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interactions.
 - o Chapters 18 and 22 discuss electricity and magnetism that contains information on how to illustrate forces and interactions between charged particles and how this affects the energy of the system of charged particles.*

- SC.HS.1.9.b Plan and conduct an investigation that the transfer of thermal energy when two components of different temperature are combined with in a closed system results in a more uniform energy distribution among the components in the system.
 - o *Chapter 15 covers thermodynamics, including the 2nd Law of Thermodynamics and the process of equilibration.*

 - SC.HS.1.10.a Use mathematical representations to support a claim regarding relationships among frequency, wavelength, and speed of waves traveling in various media.
 - o *Chapter 16 discusses harmonic oscillators and lays the foundation for this topic. Including frequency and speed of waves.*
 - o *Chapter 24 discusses electromagnetic waves and contains content regarding the frequency, wavelengths, and speed of waves.*
 - o *Chapter 25 discusses geometric optics which involves the effects of media on waves and the interface effects where media changes.*

 - SC.HS.1.11.a Evaluate claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described by either a wave model or a particle model, and that for some situations one model is more useful than the other.
 - o *Chapters 24 and 25 cover electromagnetic waves and geometric optics, which contains a discussion on how to best model these as photons vs optical waves.*
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SECTION II: Review Team Information

Each review team member will complete an individual section for a formal review of the textbook based on your stakeholder perspective. All members of the review team **MUST review** the proposed textbook prior submission to the Curriculum, Instruction and Assessment Director.

IIa. EVALUATION of textbook (to be completed by requesting educator)

The proposed textbook...	Y/N	Examples/Justification Please be specific and provide examples if applicable
is appropriate for the following grade level(s)	Y	Contains no offensive materials and is approved by College Board.
develops essential knowledge and skills	Y	Gives examples, explanations, and graphics that assist learning.
provides breadth and depth of content	Y	Contains all core content knowledge required in an AP Physics 1 course.
allows students to create meaning and make relevant connections to other knowledge and experience	Y	Contains many examples marked as applicable to various subjects such as biology or technology
the information in the text includes a variety of cultural perspectives.	Y	It discusses physics in a culturally appropriate way that is intended to fit the needs of future scientists and engineers.
the text has been reviewed in regard to respecting gender, ethnic and racial uniqueness, similarities and interdependence.	Y	Problems, examples, and any talk of individuals is well varied and any diagram of people represents a diverse selection of skin-tones, names, and other identifying features.
the text reflects the current research in the content area.	Y	It reflects many of the current thinking strategies for the content, but current research on this area of physics is mostly closed.
Recommend textbook for adoption	Yes ▾	

Iib. EVALUATION of Book (to be completed by District Coordinator)

The proposed textbook...	Y/N	Examples/Justification Please be specific and provide examples if applicable
is appropriate for the following grade level(s)		This textbook is appropriate for High School use.
develops essential knowledge and skills		This text develops essential knowledge and skills for students in the study of advanced physics.
provides breadth and depth of content		This text provides enormous breadth and depth in line with the expectations of this A.P. course.
allows students to create meaning and make relevant connections to other knowledge and experience		This text provides numerous meaningful opportunities for students to make connections and demonstrate knowledge. This includes problems and exercises, and test prep materials.
the information in the text includes a variety of cultural perspectives.		When appropriate this text includes a variety of cultural perspectives and representations.
the text has been reviewed in regard to respecting gender, ethnic and racial uniqueness, similarities and interdependence.		This text has been reviewed in regard to respecting gender, ethnic and racial uniqueness, similarities and interdependence and show a variety of examples without demonstrating bias.
the text reflects the current research in the content area.		This text provides multiple examples which incorporate current research within the content area to allow for students success on the A.P. exam.
aligns with proposed connections to DCSD curriculum (Colorado Academic Standards, Essential Skills)		This textbook aligns with specific expectations outlined in the Colorado Academic Standards as well as those detailed by College Board for Advanced Placement instruction.
Recommend textbook for adoption	Yes ▾	

Iic. EVALUATION of textbook (to be completed by a colleague)

The proposed textbook...	Y/N	Examples/Justification Please be specific and provide examples if applicable
is appropriate for the following grade level(s)	Y	Yes, the text is age appropriate and contains only scientific information about Physics.
develops essential knowledge and skills	Y	The text covers the essential concepts and mathematical processes that are essential for the understanding of Physics.
provides breadth and depth of content	Y	The text provided a thorough exploration of College Level Physics.
allows students to create meaning and make relevant connections to other knowledge and experience	Y	Extensive examples and opportunities for students to check their understanding are provided in this text.
the information in the text includes a variety of cultural perspectives.	Y	This is a straightforward science text that will be approachable from all cultural perspectives.
the text has been reviewed in regard to respecting gender, ethnic and racial uniqueness, similarities and interdependence.	Y	Yes. I have no concerns in this area. This text is respectful to all genders and cultures.
the text reflects the current research in the content area.	Y	Because this is an e textbook, the most up to date information and research is provided.
aligns with proposed connections to DCSD curriculum (Colorado Academic Standards, Essential Skills)	Y	This text is highly aligned with the Colorado Academic Standards and the standards expected in the college level course.
Recommend for adoption	Yes ▾	

IId. EVALUATION of textbook (to be completed by Parent)

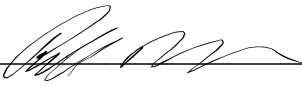
The proposed textbook...	Y/N	Examples/Justification Please be specific and provide examples if applicable
is appropriate for the following grade level(s)	Y	College preparatory
develops essential knowledge and skills	Y	Covers all anticipated topics for a comprehensive Physics course
provides breadth and depth of content	Y	Very broad topics
allows students to create meaning and make relevant connections to other knowledge and experience	Y	
the information in the text includes a variety of cultural perspectives.	Y	Several example found that cross a variety of cultures
the text has been reviewed in regard to respecting gender, ethnic and racial uniqueness, similarities and interdependence.	Y	I found no specific examples of inappropriate content
Recommend for adoption	<input type="button" value="Yes"/>	

IIe. EVALUATION of textbook (to be completed by IT Representative)

The proposed textbook...	Y	
meets privacy act requirements	Y	
vendor has signed <i>Data Protection Addendum</i>	N	
Recommend for adoption		Yes ▾

SECTION V: Signatures/Approvals

Va.

Does the evaluating Educator recommend adoption of this textbook?	YES	NO
Date <u>Oct 28 2024</u>	<input checked="" type="checkbox"/>	
Evaluating Educator Signature <u></u>		

Vb.

Does the evaluating Colleague recommend adoption of this textbook?	YES	NO
Date <u>Oct 30 2024</u>	<input checked="" type="checkbox"/>	
Evaluating Colleague Signature <u>Stephanie Riddle</u>		

Vc.

Does the evaluating Parent #1 recommend adoption of this textbook?	YES	NO
Date <u>Oct 28 2024</u>	<input checked="" type="checkbox"/>	
Evaluating Parent (#1) Signature <u>Christie Beerermann</u>		

Vd.

Does the evaluating IT Representative recommend adoption of this textbook?	YES	NO
Date <u>Oct 29 2024</u>	<input checked="" type="checkbox"/>	
Evaluating IT Representative Signature <u>Joel Boeckmann</u>		

Ve.

Does the evaluating Requesting Educator's Administrator recommend adoption of this textbook?	YES	NO
Date <u>Oct 28 2024</u>	<input checked="" type="checkbox"/>	
Administrator Signature <u>Jason Jacob</u>		

Vf.

Does the District Coordinator certify that the information on this form accurately reflects the process followed at the site.	YES	NO
Date <u>Oct 28 2024</u>	<input checked="" type="checkbox"/>	
District Coordinator Signature <u>Tyson Euborg</u>		

Vg.

Does the Curriculum, Instruction and Assessment Director support adoption of this textbook?	YES	NO
Date <u>Oct 28 2024</u>	<input checked="" type="checkbox"/>	
CIA Director Signature <u>Erica Mason</u>		

Vh.

Does the DCSD Cabinet Member support adoption of this textbook?	YES	NO
Date <u>Oct 28 2024</u>	<input checked="" type="checkbox"/>	
DCSD Cabinet Member Signature <u>Matt Reynolds</u>		

SECTION VI: Superintendent’s Approval

SUPERINTENDENT’S APPROVAL

Does the <i>Superintendent</i> approve adoption of this textbook?	YES	NO
Date _____		
Superintendent Signature _____		

SECTION VII: Board of Education Approval

BOARD OF EDUCATION APPROVAL

Does the <i>Board of Education</i> approve adoption of this textbook?	YES	NO
Date _____		
Board of Education Signature _____		

OFFICE USE

	DATE	INITIALS
Approved textbook list updated (including recommended grade level)		
Approved form with BOE signatures scanned to CIPG folder on District server		