

ABSE33 : PHYSICAL SCIENCE 1B

General Information

Author:	<ul style="list-style-type: none"> Jesus Carino
Course Code (CB01) :	ABSE33
Course Title (CB02) :	PHYSICAL SCIENCE 1B
Department:	ABSE
Proposal Start:	Spring 2025
TOP Code (CB03) :	(4930.62) Secondary Education (Grades 9-12) and G.E.D.
CIP Code:	(53.0201) High School Equivalence Certificate Program.
SAM Code (CB09) :	Non-Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000314052
Curriculum Committee Approval Date:	05/22/2024
Board of Trustees Approval Date:	07/16/2024
Last Cyclical Review Date:	05/22/2024
Course Description and Course Note:	ABSE 33 is a high school level course designed to expand on basic physical science with concepts of motion, machines, sound, light, electricity and magnetism. This is the second half of a one-year course. It meets the requirements for a high school diploma. Laboratory 100 hours. Note: This is a self-paced course in an open-entry, open-exit lab environment. Successful completion of the course results in 5 high school credits.
Justification:	Mandatory Revision
Academic Career:	<ul style="list-style-type: none"> Noncredit
Author:	

Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none"> Interdisciplinary-Basic: Skills: Non-Credit
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08) Course is a basic skills course. <input type="checkbox"/> Allow Students to Gain Credit by Exam/Challenge	Course Special Class Status (CB13) Course is not a special class. Pre-Collegiate Level (CB21) Not applicable.	Grading Basis <ul style="list-style-type: none"> Grade Only Course Support Course Status (CB26) Course is not a support course
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Transferability & Gen. Ed. Options

General Education Status (CB25)

Not Applicable

Transferability

Not transferable

Transferability Status

Not transferable

Units and Hours

Summary

Minimum Credit Units (CB07)	0
Maximum Credit Units (CB06)	0
Total Course In-Class (Contact) Hours	100
Total Course Out-of-Class Hours	0
Total Student Learning Hours	100

Credit / Non-Credit Options

Course Type (CB04)

Non-Credit

Noncredit Course Category (CB22)

Elementary and Secondary Basic Skills.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Other Non-Credit Enhanced Funding.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience

Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	0	0
Laboratory Hours	100	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	54
Course In-Class (Contact) Hours	
Lecture	0
Laboratory	100
Studio	0
Total	100
Course Out-of-Class Hours	
Lecture	0
Laboratory	0
Studio	0
Total	0

Time Commitment Notes for Students

This is a self-paced course in an open-entry, open exit lab environment.

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Advisory

ABSE32 - PHYSICAL SCIENCE 1A (in-development)

Objectives

- List the properties of matter.
- Describe atoms, molecules, elements, and compounds.
- Analyze and use the periodic table of compounds, acids and bases.
- Interpret and write balanced equations.
- Name and explain the four main types of chemical reactions.

AND

Advisory

ESL40 - ENGLISH AS A SECOND LANGUAGE LEVEL 4

Objectives

- Demonstrate mastery of grammatical structures studied at a level sufficient to pass unit tests and the divisional grammar mastery test for this level.
- Write a three-paragraph composition that contains an introductory paragraph, a body, and a conclusion.
- Decode 3,000-word reading passages, identify main ideas and supporting details, make inferences, and summarize short passages.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction

Multimedia

Methods of Instruction

Lecture

Methods of Instruction

Independent Study

Out of Class Assignments

N/A

Methods of Evaluation

Other

Rationale

Individualized contract

Exam/Quiz/Test

Unit exams

Textbook Rationale

New OER material. No updated textbook because information can be found through newer OER material.

Textbooks**Author****Title****Publisher****Date****ISBN**

Glencoe

e. Physical iScience

New York:
Glencoe/McGraw-
Hill,

2011

978-0078880049

Other Instructional Materials (i.e. OER, handouts)**Description**

OpenStax - Physics High School

Author

Fatih Gozuacik, Denise Pattison, Catherine Tabor

CitationGozuacik, F., Pattison, D., & Tabor, C. (2019, February 14). Physics High School. OpenStax. OpenStax | Free Textbooks Online with No Catch. (n.d.-b). @Openstax/Os-webview. <https://openstax.org/details/books/physics>**Online Resource(s)**

Digital: ISBN-13: 978-1-951693-21-3

Description

OpenStax - Chemistry

Author

Don Frantz, Paul Hooker, George Kaminski

CitationFrantz, D., Hooker, P., & Kaminski, G. (2019, February 14). Chemistry. OpenStax. <https://openstax.org/details/books/chemistry-2e>**Online Resource(s)**

Digital: ISBN-13: 978-1-947172-61-6

Description

Instructor-generated materials covering discipline topics, along with duplicate booklets from books obtained with copyright permission.

Author	No value
Citation	No value
Online Resource(s)	No value

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

State laws of motion and use in calculations for speed, distance and time.

Identify simple machines and levers and use in calculations for work.

Describe properties of heat and how it affects matter.

Explain how sound is produced, travels and is reflected.

State the nature of light and its reflection and refraction.

Summarize electric current in a circuit and the effect of conductors and insulators.

Compare series and parallel circuits.

Analyze the causes and uses of magnetic fields and electromagnetism.

SLOs

Identify and use relevant physical laws and principals to applied problems.

Expected Outcome Performance: 70.0

Explain the structure of matter and its physical and chemical transformations.

Expected Outcome Performance: 70.0

Describe the interaction between various forms of energy.

Expected Outcome Performance: 69.75

Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

No value

Laboratory/Studio Content

Motion (20 hours)

- Motion and speed
- Elapsed time
- Calculating distance
- Using a graph to describe motion
- Predicting distances
- Velocity
- Varying speed
- Acceleration and deceleration
- The three laws of motion
- Gravity law of universal gravitation
- Gravity and acceleration

Work and Machines (20 hours)

- Work defined and measurement
- Energy defined
- Kinetic and potential energy
- Law of conservation of energy
- Use of levers three classes of levers
- Work and efficiency for a lever
- Mechanical advantage
- Other simple machines
- Pulley
- Inclined plane
- Screw
- Wheel and axle

Heat (15 hours)

- Definition and sources
- How heat affects matter
- Changing from a liquid to a gas
- Expanding and contracting matter
- Temperature thermometers and temperature scales
- Freezing, melting and boiling points
- Measuring heat
- How heat travels
- Radiation
- Conduction
- Convection

Sound and Light (20 hours)

- How sound is produced
- How sounds differ
- Light and soft sounds
- High and low sounds
- How sound travels
- Sound moves through matter
- Speed of sound
- How sound bounces
- Measuring distances with sound waves

- Seeing inside the body with sound
- Light defined light as a particle and as a wave
- Color in white light
- Light reflected
- Reflection and refraction
- Plane, concave and convex mirrors
- How light is bent

Electricity (15 hours)

- How electricity flows through a conductor
- Static electricity
- Closed and open circuits
- Conductors, insulators and resistance
- Some sources of electric current
- Dry and wet cell batteries
- Direct and indirect currents
- Ohm's law
- Series circuits
- Batteries in series
- Circuits fuses and circuit breakers
- Parallel circuits
- Measuring electricity

Magnets and Electromagnetism (10 hours)

- Magnets and magnetic poles
- Magnetic fields
- Causes of magnetism
- Relation between magnetism and electricity
- Motors

Total Hours: 100

Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

No Value

Repeatability

Repeatable

Justification (if repeatable was chosen above)

Non-credit courses

Resources

Did you contact your departmental library liaison?

Yes

If yes, who is your departmental library liason?

Caroline Hallam (Mathematics, Physical Science)

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

- No

If additional resources are needed, add a brief description and cost in the box provided.

No Value