



# Dubai International Private School - BR.

DIPS, in partnership with parents and community, strives to ensure all students are digitally literate, lifelong learners, productive citizens and nurture their well-being in an inclusive learning environment.

"Empowering Minds, Inspiring Hearts, Shaping the Future"

“تمكين العقول، إلهام القلوب، تشكيل المستقبل”



## Science Department

Semester: 1

2026-2027

| Grade Level     |         | Grade 12                                                     | Subject: AP PHYSICS C MECHANICS                                                                                                    |                                                           |
|-----------------|---------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Teacher(s) Name |         | SARANYA HAREESH                                              |                                                                                                                                    |                                                           |
| Textbook        |         | College board/college physics, Global edition ,11 th edition |                                                                                                                                    |                                                           |
| Week #          | Dates   |                                                              | Lesson Title / Pages                                                                                                               | CCSS / NGSS Code / MOE                                    |
| 1               | Aug 31  | Sept 4                                                       | INTRODUCTION TO CALCULUS<br><br>1.significant figures<br><br>2. scientific notation<br><br>3. differentiation<br><br>4.integration |                                                           |
| 2               | Sept 7  | Sept 11                                                      | UNIT 1: Kinematics<br><br>1.1 Scalars and Vectors<br>1.2 Displacement, Velocity, and Acceleration<br>1.3 Representing Motion       | 1.1.A<br><br>1.2.A<br><br>1.2.B<br><br>1.2.C<br><br>1.3.A |
| 3               | Sept 14 | Sept 18                                                      | 1.4 Reference Frames and Relative Motion<br>1.5 Motion in Two or Three Dimensions                                                  | 1.4.A<br><br>1.4.B                                        |

|   |         |                                          |                                                                                                                                 |                                           |
|---|---------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|   |         |                                          |                                                                                                                                 | 1.5 A                                     |
| 4 | Sept 21 | Sept 25                                  | <b>UNIT 2: Force and Translational Dynamics</b><br>2.1 Systems and Center of Mass<br>2.2 Forces and Free-Body Diagrams          | 2.1.A<br>2.1.B<br>2.2.A<br>2.2B           |
| 5 | Sept 28 | Oct 2                                    | <b>UNIT 2: Force and Translational Dynamics</b><br>2.3 Newton's Third Law<br>2.4 Newton's First Law                             | 2.4.A<br>2.5A<br>2.6A<br>2.6. B           |
| 6 | Oct 5   | Oct 9                                    | <b>UNIT 2: Force and Translational Dynamics</b><br>2.5 Newton's Second Law                                                      | 2.6.C<br>2. .6. D<br>2.6.E                |
|   | Oct 12  | Oct 16                                   | <b>1<sup>st</sup> Semester Break</b>                                                                                            |                                           |
| 7 | Oct 19  | Oct 23                                   | 2.6 Gravitational Force                                                                                                         |                                           |
| 8 | Oct 26  | Oct 30<br><b>Oct 30 End of Quarter 1</b> | <b>UNIT 2: Force and Translational Dynamics</b><br>2.7 Kinetic and Static Friction<br>2.8 Spring Forces<br>2.9 Resistive Forces | 2.7.A<br>2.7 B<br>2.8.A<br>2.8 B<br>2.9 A |
| 9 | Nov 2   | Nov 6                                    | <b>UNIT 3 Work, Energy, and Power</b><br>3.1 Translational Kinetic Energy                                                       | 3.1 A<br>3.2.A                            |

|    |        |                                                   |                                                                                                   |                         |
|----|--------|---------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------|
|    |        |                                                   | 3.2 Work                                                                                          |                         |
| 10 | Nov 9  | Nov 13                                            | 3.3 Potential Energy                                                                              | 3.3.A                   |
| 11 | Nov 16 | Nov 20                                            | 3.4 Conservation of Energy<br>3.5 Power                                                           | 3.4.A<br>3.4 B<br>3.4.c |
| 12 | Nov 23 | Nov 27<br>(1 day for<br>National Day Celebration) | Unit 4: Linear Momentum<br>4.1 Linear Momentum<br>4.2 Change in Momentum and Impulse              | 4.1 A<br>4.2 A<br>4.2 B |
| 13 | Nov 30 | Dec 4<br>(Dec 2-Dec 4<br>National Day Holiday)    | Unit 4: Linear Momentum<br>4.3 Conservation of Linear Momentum                                    | 4.3 A<br>4.3. B         |
| 14 | Dec 7  | Dec 11                                            | 4.4 Elastic and Inelastic Collisions                                                              | 4.4.A                   |
|    | Dec 14 | Jan 1                                             | Winter Break for All Students                                                                     |                         |
| 15 | Jan 4  | Jan 8                                             | 4.4 Elastic and Inelastic Collisions<br>(COLLEGE BOARD QUESTIONS SOLVING)                         | 4.4.A                   |
| 16 | Jan 11 | Jan 15                                            | UNIT 2: Force and Translational Dynamics<br>2.10 Circular Motion                                  | 2.10 A<br>2.10 B        |
| 17 | Jan 18 | Jan 22                                            | Semester 1 Exams (French, Civics, Social studies) followed by regular Teaching Days for Revision. |                         |
| 18 | Jan 25 | Jan 29                                            | Semester 1 Exams                                                                                  |                         |

**\*\* Map Test week will be assigned throughout the semester for every grade level.**