

Lesson Plan for Week 3 : Feb.13- 17 Grade: 12 Course / Code: SPH4U Teacher: Ali Jama

| | Monday | Tuesday | Wednesday | Thursday |
|--------------------------|---|--|--|---|
| Unit/ Lesson | Unit 1 : Dynamics | Unit 1: Dynamics | Unit 1: Dynamics | Dynamics |
| Big Ideas | Forces affect motion in predictable and quantifiable ways. Forces acting on an object will determine the motion of that object. Many technologies that utilize the principles of dynamics have societal and environmental implications. | Forces affect motion in predictable and quantifiable ways. Forces acting on an object will determine the motion of that object. Many technologies that utilize the principles of dynamics have societal and environmental implications. | Forces affect motion in predictable and quantifiable ways. Forces acting on an object will determine the motion of that object. Many technologies that utilize the principles of dynamics have societal and environmental implications... | Forces affect motion in predictable and quantifiable ways. Forces acting on an object will determine the motion of that object. Many technologies that utilize the principles of dynamics have societal and environmental implications. |
| Overall Expectations | B2 investigate, in qualitative and quantitative terms, forces involved in uniform circular motion and motion in a plane, and solve related problems | B2 investigate, in qualitative and quantitative terms, forces involved in uniform circular motion and motion in a plane, and solve related problems ; | B2 investigate, in qualitative and quantitative terms, forces involved in uniform circular motion and motion in a plane, and solve related problems | B2 investigate, in qualitative and quantitative terms, forces involved in uniform circular motion and motion in a plane, and solve related problems |
| Specific Expectations | B2. 2 solve problems related to motion, including projectile and relative motion, by adding and subtracting two-dimensional vector quantities, using vector diagrams, vector components, and algebraic methods [PR, AI, C] | B2.4 predict, in qualitative and quantitative terms, the forces acting on systems of objects (e.g., masses in a vertical pulley system [a “dumb waiter”], a block sliding off an accelerating vehicle, masses in an inclined-plane pulley system), and plan and conduct an inquiry to test their predictions [IP, PR, AI] | B2.3 analyze, in qualitative and quantitative terms, the relationships between the force of gravity, normal force, applied force, force of friction, coefficient of static friction, and coefficient of kinetic friction, and solve related two-dimensional problems using free-body diagrams, vector components, and algebraic equations (e.g., calculate the acceleration of a block sliding along an inclined plane or the force acting on a vehicle navigating a curve) [AI, C]] | B2.4 predict, in qualitative and quantitative terms, the forces acting on systems of objects (e.g., masses in a vertical pulley system [a “dumb waiter”], a block sliding off an accelerating vehicle, masses in an inclined-plane system), and plan and conduct an inquiry to test their predictions [IP, PR, AI] |
| Learning Goals | No classes | Forces and free body diagrams | Newton's laws of motion | Gravitational force Normal Force Apparent weight |
| Success Criteria | | | | |
| Instructional Strategies | P .D. Day | Lecture on forces, net force and free body diagrams. Related problems will be analyzed and solved. | Lecture on Newton’s First, second and third law of motion. Examples will be analyzed and solved. | Lecture on force of gravity, normal force and apparent weight. examples will be given and related problems will be analyzed and solved. |
| Assessment & Evaluation | AOL | Class Work [AFL] | Class Work [AFL] | Class work |
| Homework / Class Work | | Practice questions 1-5 on page 68 textbook. | Practice questions 1-3 on page 72 | Questions on page 76 |
| Materials & Resources | Nelson Physics 12 [Textbook] | Nelson Physics 12 [Textbook] | Nelson Physics 12 [Textbook] | Nelson Physics 12 [Textbook] |

