



**NIDA CORPORATION
COMPUTER ASSISTED INSTRUCTION**

LESSON AND OBJECTIVE LISTING

**Master Course Listing
Science**

2018-08-30

Representative



Technology Education Concepts
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OBJECTIVE LISTING - Master Course Listing

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LESSON ID/TITLE

CARDS/KITS

MOD 88 - PHYSICS

3011-212-130 Introduction to Physics	---
▪ Define physics.	
▪ Identify the three states of matter.	
▪ Describe the characteristics of each state.	
▪ Describe how matter can change from one state to another.	
3011-212-160 Measurement	---
▪ Describe the purpose of measurements.	
▪ Describe the different types of measurements used by scientists.	
▪ Describe the measurements for length, area, and volume.	
▪ Describe the measurements for mass and density.	
▪ Describe the measurements for time.	
3011-212-190 Force	---
▪ Define force and torque.	
▪ Use vectors to represent forces and find resultant forces.	
▪ Define equilibrium of force.	
▪ Discuss Newton's Law of Gravitation.	
▪ Define center of gravity.	
3011-212-220 Motion	---
▪ Define motion.	
▪ Define and calculate velocity and acceleration.	
▪ Discuss Newton's Laws of motion.	
▪ Define the acceleration due to gravity.	
3011-212-250 Work and Energy	---
▪ Define work and energy.	
▪ Calculate the work done on an object.	
▪ Define potential and kinetic energy.	
▪ Define power.	
▪ Describe machines.	
3011-212-280 Heat	---
▪ Define heat and temperature.	
▪ Describe temperature scales and measurement.	
▪ Describe expansion and contraction.	
▪ Discuss heat transfer by conduction, convection, and radiation.	
3011-212-310 Sound and Acoustics	---
▪ Describe sound waves.	
▪ Describe sound wavelength, frequency, and pitch.	
▪ Describe the Doppler effect.	
▪ Define sound intensity.	
3011-212-340 Light	---
▪ Define light.	
▪ Describe sources of light.	
▪ Describe reflection and refraction.	
▪ Describe measurement of light.	
3011-212-370 Magnetism	---
▪ Define magnetism.	
▪ Describe different types of magnetism.	
▪ Describe relays, motors, and transformers.	

OBJECTIVE LISTING - Master Course Listing

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MOD 88 - PHYSICS (cont.)

3011-212-370 Magnetism (cont.)

- Describe generators.

3011-212-920 Physics Post-Test (Theory) ---

MOD 89 - CHEMISTRY

3011-112-130 Introduction to Chemistry ---

- Define chemistry.
- Describe the history of chemistry.
- Recognize chemistry's impact on everyday life.

3011-112-160 Matter and Energy ---

- Define Matter and Energy.
- Name the three states of matter.
- Distinguish classes of matter.
- Differentiate between physical changes and chemical reactions.

3011-112-190 The Periodic Table ---

- Recognize the periodic table.
- Understand the structure of the periodic table.
- Identify Groups and Periods.
- Relate various element names to their corresponding chemical symbol.
- Describe some properties that are common to elements located in the same groups on the periodic table.

3011-112-220 Solids, Liquids, and Gases ---

- Identify the three physical states of matter.
- Define the properties of the three states of matter.
- Understand how matter changes from one state to another.

3011-112-250 Atomic Structure ---

- Describe the structure of the atom.
- Understand how atomic structure gives rise to the chemical properties of the elements.

3011-112-280 Bonding ---

- Understand the process of atomic bonding.
- Distinguish the types of chemical bonds.
- Use the electron dot structure to represent chemical compounds.

3011-112-310 Chemical Quantities ---

- Identify the units of measure used in chemistry.
- Recognize the correct units to use in various chemical calculations.
- Use dimensional analysis for converting chemical quantities and verifying correctness of chemical calculations.

3011-112-340 Chemical Names ---

- Understand and apply standard conventions for naming inorganic chemical compounds.

3011-112-370 Chemical Reactions ---

- Identify different types and classes of chemical reactions.
- Understand the basic mechanisms of chemical reactions.
- Recognize the role of chemical reactions in our day-to-day lives.

3011-112-400 Applications of Chemistry ---

- Identify the impact of some different fields of chemical science on the world today.

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MOD 89 - CHEMISTRY (cont.)

3011-112-920 Chemistry Post-Test (Theory) ---



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