As from scholastic year 2013-14, Form 3 students opting to study Design and Technology and who have been studying the subject in Form 1 and 2 shall abide by the Form 3 syllabus content of the entry course published in 2006 together with the amendments issued in this document.

The content of this document reflects the topics not covered in Form 1 and 2 due to the change in curricula. Headings and numbering follow the same format of the 2006 syllabus for ease of referencing.

These amendments shall be in force until further notice is given. Form 4 and 5 syllabus content remains unchanged.

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2.2 RESISTANT MATERIALS

2.2.4 KNOWLEDGE AND UNDERSTANDING

*Students should be able to:*

**2.2.4a MATERIALS:*

1. show awareness that materials have different properties
   - Physical: thermal properties.
   - Mechanical: strength, hardness, durability, elasticity.

10. know about the classification of materials.
   - alloys
3.2 ELECTRONICS

3.2.4 KNOWLEDGE AND UNDERSTANDING

Students should be able to:

3.2.4a ELECTRONIC COMPONENTS

Resistors:

• know that fixed and variable resistors are used to control voltage and current in a circuit.
• determine the tolerance value of fixed resistors.

Components as output devices:

• Know the basic characteristics of reed type buzzers

Mechanical and electrical switches:

• know that a switch is a means of control to achieve functional results.
• know that the following switches may perform different functions: reed, rotary, latching (on and off).

3.2.4b CIRCUIT CONSTRUCTION:

10. convert voltage, current and resistance into unit multiples.
4.2 TEXTILES

4.2.2 MAKING SKILLS

Students should be able to:

7. apply assembling techniques appropriate to the product:

- Prepare the edge of materials before joining
- Seams (temporary and permanent),
- Hems.
- Facings.
- Interfacings.
- Fullness.
- Gathering.

4.2.4 KNOWLEDGE AND UNDERSTANDING

Students should be able to:

4.2.4A MATERIALS

6. understand the processes involved in manufacturing and how manufacturing companies are organised.
   - Custom production (one-off)
   - Batch production
   - Mass production

8. cut, join and shape various materials (fabrics and components) in a variety of ways.
   - Pattern making: pattern drafting.
   - Lay planning: open lay, one way.
   - Cutting out
   - Edge finishes: hems, overlock, facings, binding.
   - Adding shape: pleats, gathering, darts, tucks.
   - Pressing: the use of steam and vacuum.
5.2 FOOD

5.2.4 KNOWLEDGE AND UNDERSTANDING

Students should be able to:

5.2.4a MATERIALS

9. identify and select the appropriate storage, serving and packaging of ingredients and food products considering hygiene, aesthetic and environmental factors.
   • select appropriate storage (freezer, room temperature) for different ingredients and food products.
   • know why packaging is necessary.
   • list different types of packaging available, their advantages and disadvantages.
   • choose the packaging material appropriate to the properties of food to be packed. (also considering hygiene and aesthetics)
   • choose cost effective and environmentally friendly packaging.
   • list, describe and explain different food packaging and select suitable packaging, e.g. paper, cardboard, plastic for the food product, considering cost effectiveness, hygiene, aesthetic and environmental factors.

11. describe in basic terms the relationship between energy needs and food intake including lack and excess intake.
   • carbohydrates, fats and proteins provide energy which both the physical body and mind need to function properly.
   • different people require different energy needs depending on sex, age, lifestyle (active or sedentary), special requirements (e.g. pregnancy, athletes, elderly...)
   • lack of food leads to lack of energy which may cause many physical and mental problems e.g. underweight and lack of concentration.
   • excessive intake of energy-dense food leads to an excess of energy which may cause serious problems very common in the Maltese islands e.g. overweight and obesity.
   • know the energy value of Proteins, Carbohydrates and fats and calculate the energy value of the product.

13. know that all food is produced from ingredients, known as components in the food industry.
   • identify primary food, secondary food
   • list two different methods of processing (primary processing, secondary processing), which allow the development from one group to the next group of foods.