### CONTENT DESCRIPTION (SYLLABUS / PROGRAMME)

### Science as a Human Endeavour

**Chemical synthesis**

Scientific knowledge can be used to design alternative chemical synthesis pathways, taking into account sustainability, local resources, economics and environmental impacts (green chemistry), including the production of ethanol and biodiesel.

### CONTENT DESCRIPTION (ASSESSMENT OUTLINE)

Task 11: Production of ethanol and biodiesel.

Students read information provided on the production of ethanol and biodiesel, conduct further research and answer questions.

Article provided

Links to some video information

Can view video in class (laptops, no phones or tablets)

Notes OK

**1. BIOFUELS / BIOETHANOL** - definition(s)

- justification for production

**2.** **SYNTHESIS BY FERMENTATION** - various feedstocks - sugar based

- starch/cellulose based

- use of enzymes

**3.** **SYNTHESIS FROM ETHENE**

**4. COMPARISON OF METHODS** - conditions relate to safety, economics

- sustainability and environmental aspects