CHEM3011 Presentation on Mechanical Properties of Matter

This presentation counts for 10% of the overall module mark and the assessment is largely focused on content, rather than delivery (see marking criteria overleaf).

You are asked to find information on mechanical properties of matter from suitable referenced textbooks. Your aim is to understand the basics of elasticity and thermal expansion and to choose a suitable application involving these that you can explain to others. You will then deliver a mini lecture to an imaginary audience of year 1 undergraduate students. The lecture should be 10 minutes long, and should be based on Powerpoint (or equivalent) slides. You should cover the following:

Types of Material

- Polymers
- Glasses
- Metals
- Ceramics
- Liquid crystals

Elastic Properties

- Deformation and stress versus strain
- Young's modulus and example values
- Application

Thermal Properties

- Thermal expansion
- Thermal expansion coefficients and example values
- Application

Marking Criteria

Student Name:

Presentation on Mechanical Properties of Matter

Time started: **Time finished:** **Duration:**

Title:

	A	B	C	D	E	Comments
Student has prepared well	☐	☐	☐	☐	☐	
Student has covered all required aspects	☐	☐	☐	☐	☐	
Materials correctly defined	☐	☐	☐	☐	☐	
Young's modulus correctly defined	☐	☐	☐	☐	☐	
Thermal expansion coefficient correctly defined	☐	☐	☐	☐	☐	
Explanations are clear	☐	☐	☐	☐	☐	
Examples are given	☐	☐	☐	☐	☐	
Applications are well chosen and explained	☐	☐	☐	☐	☐	

Overall Mark (/20):