

SYLLABUS UPDATE

AS/A LEVEL BIOLOGY SYLLABUS 9700

Please note the following amendments to the 2014 syllabus.

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A Cell structure

- (c) describe and interpret drawings and photographs of typical animal and plant cells, as seen using the electron microscope, recognising the following: rough endoplasmic reticulum and smooth endoplasmic reticulum, Golgi body (Golgi apparatus or Golgi complex), mitochondria, ribosomes, lysosomes, chloroplasts, cell surface membrane, nuclear envelope, centrioles, nucleus, nucleolus, microvilli, cell wall, the large permanent vacuole and tonoplast (of plant cells) and plasmodesmata. (knowledge that ribosomes occurring in the mitochondria and chloroplasts are 70S (smaller) than those in the rest of the cell (80S) should be included. The existence of small circular DNA in the mitochondrion and chloroplast should be noted);
- (i) outline key structural features of typical prokaryotic cells (including: unicellular, 1-5 μ m diameter, peptidoglycan cell walls, lack of membrane-bound organelles, naked circular DNA, 70S ribosomes) and compare and contrast the structure of prokaryotic cells with eukaryotic cells (reference to mesosomes should not be included);

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B Biological molecules

- (h) describe the molecular structure of haemoglobin as an example of a globular protein, and of collagen as an example of a fibrous protein and relate these structures to their functions (the importance of iron in the haemoglobin molecule should be emphasised. A haemoglobin molecule is composed of 2 alpha (α) chains and 2 beta (β) chains, although when describing the chains the terms α -globin and β -globin may be used. There should be a distinction between collagen molecules and collagen fibres);

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K Ecology

- (d) describe how nitrogen is cycled within an ecosystem, including the roles of nitrogen-fixing bacteria (e.g. *Rhizobium*) and nitrifying bacteria (*Nitrosomonas* and *Nitrobacter*);