

## Topic 19: Oxidation and reduction (5 hours)

### 19.1 Standard electrode potentials

3 hours

	Assessment statement	Obj	Teacher's notes
19.1.1	Describe the standard hydrogen electrode.	2	
19.1.2	Define the term <i>standard electrode potential</i> $E^\circ$ .	1	
19.1.3	Calculate cell potentials using standard electrode potentials.	2	
19.1.4	Predict whether a reaction will be spontaneous using standard electrode potential values.	3	

### 19.2 Electrolysis

2 hours

	Assessment statement	Obj	Teacher's notes
19.2.1	Predict and explain the products of electrolysis of aqueous solutions.	3	Explanations should refer to $E^\circ$ values, nature of the electrode and concentration of the electrolyte. Examples include the electrolysis of water, aqueous sodium chloride and aqueous copper(II) sulfate. <b>Aim 7:</b> Virtual experiments can be used to demonstrate this.
19.2.2	Determine the relative amounts of the products formed during electrolysis.	3	The factors to be considered are charge on the ion, current and duration of electrolysis.
19.2.3	Describe the use of electrolysis in electroplating.	2	<b>Aim 8</b>