

## Practical 1 – Option G

### Interference and diffraction of light

#### Criteria assessed

- DCP
- CE

#### Materials needed

- Diffraction grating
- Laser
- Graph paper (with millimetre squares)
- Ruler

#### Safety

This experiment uses a laser. Protect your eyes. Do NOT look directly into the laser beam or its reflections from smooth objects.

#### What to do

- Direct the laser beam normally at the diffraction grating. A diffraction pattern will be observed on a screen (the wall) behind the grating.
- Place graph paper on the wall so you can easily measure distances on the wall.
- Measure the distance of the first and/or second maxima from the central maximum. The diffraction grating formula says that maxima are obtained when  $d \sin \theta = n\lambda$ .

Use this equation, your measurements and a suitable graph to measure the wavelength of the laser light.