

Oxford Engineering Interviews

Qualities sought during an Engineering interview (as taken from the Engineering website)

Candidates invited for interview should expect an academic or technical interview. They should be able to demonstrate:

- Fluency in expressing core knowledge and ideas in physics and mathematics
- Ability to apply existing knowledge methodically to new situations
- Ability to assimilate and apply new concepts
- Rapidity in thinking and reasoning

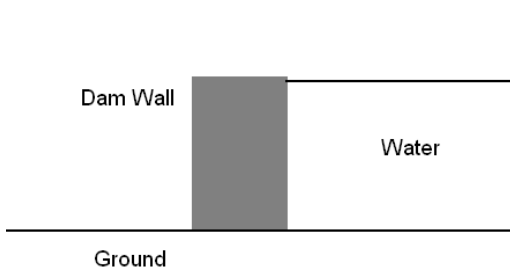
and to be able to discuss their:

- Commitment to intense and sustained learning
- Interest in and enthusiasm for the engineered world

College interviews

Candidates invited for interview will be seen at two colleges on the same day, usually one interview will take place in the morning and the other in the afternoon. As well as more general questions candidates will be asked some based on the mathematics they have done at school and others on physical situations requiring the application of physics and simple maths to test the candidate's ability to express physical concepts mathematically. An example is given below; others have an electrical or mechanical flavour that can be chosen to match the particular subjects the candidate has covered at school.

Typical Engineering Interview Question



The candidate is asked to consider the engineering design of a vertical faced gravity dam wall, such as the one shown on the left. This question is open-ended and allows the interviewer to engage in a dialogue with the candidate about what is involved in considering the problem. The issues that need to be addressed include the forces acting on the wall, which requires an understanding of mechanics (physics/maths). This

could lead into a discussion about the weight of the wall, the water pressure and the line of action of the resultant water force on the wall, possibly leading to an integral if the candidate has covered the relevant mathematics. Having identified the forces on the wall, the candidate might then be asked to assess the stability of the wall under the applied forces. If ideas do not come immediately to mind the candidate might be prompted to consider the potential failure of the wall by sliding or overturning and then be asked to derive simple expressions for stability. This involves the application of both mathematics and physics to the problem. Other issues that might be discussed are soil failure under the dam wall, water seepage through the soil, structural design of the wall itself and so on. The level of detail and the areas explored will depend on the candidate's responses as the discussion progresses. Usually, the candidate has not covered all the material at school and help is provided by the interviewer to assess how quickly the candidate develops an understanding of the new idea. This question is designed to provide information covering the first four bullet points above and would provide an indication of the last bullet point.