# Introduction to **Aerospace Engineering**



## We're delighted you're thinking about studying at Brunel University London.

Our lecturers have put together the following information to help you prepare for your course. This will give you a snapshot of the materials and reading list you'll be using. You'll get a full breakdown of information before you enrol.

On our website you can also find out more about your modules and chat to a current student.

If you have any more questions, please get in touch.

We look forward to welcoming you to Brunel.

#### Sample lecture/coursework questions

Three core topics to get you started on Statics.

- 1. Vector analysis: the basics
- 2. Equilibrium of a particle: here the use of vector analysis is required
- 3. Moment produced by a force vector

#### More advanced topics.

- 4. Equivalent system force-moment: learn how to build an equivalent system that is in the same equilibrium conditions as the original system
- 5. Equilibrium of rigid bodies: different types of supports and reactions, and how to derive equilibrium equations
- 6. Beams: transverse shear force diagram, bending moment diagram

### **Reading list**

- "Engineering Mechanics: Statics", R.C. Hibbeler
- "Vector Mechanics for Engineers: Statics", F. Beer and E. Johnston
- "Engineering Mechanics: Statics", J.L. Meriam, J.N. Bolton and L.G. Kraige
- "Stress Analysis for Lightweight Structures: A Matlab Oriented Approach". R. Cardoso



