



# AUTOMATIC CONTROL AND SYSTEMS ENGINEERING

WITH PROFESSOR ZI-QIANG LANG

## Talking points

### KNOWLEDGE:

1. What is automatic control and systems engineering?
2. List some of the specific skills that are required for a career in the field.

### COMPREHENSION:

3. Why do you think it is important that scientists and researchers design the behaviours of specific materials in applications such as aerospace?

### APPLICATION:

4. List five different sectors and industries where the principles of automatic control and systems engineering can be applied?

### ANALYSIS:

5. The three former PhD students talk about their experiences during their time with Zi-Qiang. What do you think of their respective accounts of their time under his supervision? Do you find the experience appealing? Give reasons for your answers.

### SYNTHESIS:

6. How would you explain the field of automatic control and systems engineering to your parents or friends? Provide some examples of why it is something you may be interested in pursuing, including the ways in which the field improves aspects of their lives.

### EVALUATION:

7. Mathematics is required in the field of automatic control and systems engineering, which is understandable, given that the field has a generic nature similar to that of mathematics. However, can you provide examples of other skills that might be required? Do you believe you have the skills necessary? If not, how might you go about developing them so you are better positioned to pursue a career in the field in the future?

## Activity

Automatic control and systems engineering is a field that is somewhat less recognised than other scientific fields, such as biology or medicine. For this activity, create a promotional campaign designed to encourage your fellow students to consider a career in automatic and control engineering.

Things to consider:

- What form will the campaign take? You might create a PowerPoint presentation or a single page poster.
- What facts will you include? Think about the most eye-catching aspects you can include to attract people into the field.
- What examples of applications will you include? Think about which ones will have the broadest and most relevant appeal to your audience.
- Will the campaign be purely text-based or will you include design elements?
- Can you use some quotes from within the article to help bolster your campaign?

