**Ri Masterclass Speaker training Programme:**

**Session Development - detailed planning**

Overall topic:

Section topic:

You may find it useful to think about the following for **each** section of your Masterclass:

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| **How does this section fit into the overall narrative of the Masterclass?** How would this fit in with the other sections? Will it need to go in a particular order? |
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| **What do you want the students to discover in this section?** What are the key points? What do you want the students to gain from this section of the class – what is the point of including it? |
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| **Why do you find it exciting?** |
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| **Are there any important applications/results/people/challenges?** |
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| **How does this link to other subjects/ideas?** |
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| **Are there any ‘wow’ moments in this section? If so, what is it/what are they?** How will you ensure all the students get to these points? |
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| **What are the access points?**  How can you lead the students into the topic? What links are there to what they already know or what you’ve covered in previous sections? |
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| **What activities/problems/exercises could you do?**  What activities could you include – what questions can you ask? Is there something practical which the students could do within the time? Could you set them a challenge or an investigation? How can these be extended or generalised to get them thinking more mathematically/bring in engineering principles/develop their computational thinking? How will they be working – in pairs/groups/individually? How can you bring in different voices? |
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| **What theory can you include?**  What theory do you want to cover for this topic? How will you get the students to explore it in depth? Will you need to explain it more formally? Will it all fit within the time, or will you need to cut it down? |
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| **What are the key questions to ask?**  What can you ask the students to get them to think about the topic? How will you motivate them to explore it further? What can you ask them to help them go in the right direction if they are struggling? How do you want them to answer – hands up, discuss in pairs and volunteer answers, discuss in groups and collect one idea from each group? |
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| **What will the students already need to know?**  Is there anything that the students will already need to know? Will this be covered in earlier sections of the class? Will they already have covered it in school? If so, make sure you remind them – how will you do this? If they have not covered it, do you have time to go over it, and how will you do it? |
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| **What extension activities will you have?**  What can students do if they finish an activity early? How will you get them to do this? If you are sharing the activities with the whole class, how will you ensure that those who work more slowly do not feel left out? How will these activities contribute towards your aim without being essential for the next part of the class? |
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| **What materials/equipment/resources/hardware/software will you use?** How much will it cost? Can it be reused? How will it be transported to the venue? What needs to be prepared in advance – how long will this take? Who needs to do the prep? What can the venue supply/do? What do you need to test in advance? What is your backup if something does not work or if it’s not possible to use that kit/software? |
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| **What are the risks and potential problems or difficulties?** How will you mitigate these? Will you need to do a specific risk assessment? |
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| **How will you finish your section?**  How will you bring things together at the end of the section? Will you go over the activities, leave them with something to think about? |
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| **If you are short on time, what can you leave out/ask them to do at home?** |
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| **What existing resources (books, websites, games…) are there which you could point them towards for further interest? What could you use to help you develop your activities?** |
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