

# Your Soldering is Terrible (probably)

*or*

“How I learned to stop worrying and love flux”

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# But first...

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Some house keeping

# Calendar at a glance

Week	Dates	Lecture	Reviews	Demos	Assessment submissions
1	25/2 – 1/3	Introduction			
2	4/3 – 8/3	Principles of Mechatronic Systems design			
3	11/3 – 15/3	Principles of Sailing			Design brief
4	18/3 – 22/3	Sensor Fusion and Filtering	Progress review 1		
5	25/3 -29/3	Your Soldering is Terrible			
<b>Break</b>	1/4 – 5/4				
6	8/4 – 12/4	By request	Progress seminar		
7	15/4 – 19/4	By request		25% demo	
8	22/4 – 26/4				
9	29/4 – 3/5		Progress review	50% demo	
10	6/5 – 10/5				
11	13/5 – 17/5			75% demo	Preliminary report
12	20/5 – 24/5				
13	27/5 – 31/5	Closing lecture		Final testing	Final report and addendum

You are here →

Sooner than you think!!

# FAQ Roundup

- **Do off board computers count towards the budget?**
  - No – you can use a standard lab computer (or equivalent) for free. Any extra special hardware (eg. fancy video capture cards) must be covered, however.
- **Where is the dragon?**
  - The dragon is somewhere on the mid-map
- **Does it move?**
  - It does not move during an attempt – it may be move between attempts
- **Do you control it?**
  - I choose where in the tank it is placed for each attempt

*Somewhere  
around here  
(not exact)*



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# Testing tank progress report

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- Miniature coastline is complete
- LED panels are (almost) complete
- Panel supports are complete
- Tank frame and liner are being assembled

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# Next week's lecture

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- Only one topic was nominated
  - Nomination for the next-next topic opens today and runs until Friday midnight, as usual.
- Quick poll:
  - Are per-request lectures relevant and helpful?
  - Would people prefer a fixed, pre-set syllabus?
  - Would people prefer to use this time differently?

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# Progress Seminars

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- Scheduling poll taken over the last weekend of break, closing midnight Monday 8<sup>th</sup>.
- One member of your team must sign up, listing both **name** and **group number**.
- Four teams per hour slot
  - Each team member presents equal time
  - Discuss approach, present evidence of progress
  - This is a PAF'd team assessment.

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# Back to business...

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Soldering ahoy!



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# Topics to cover today

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- Notes on safety
- Principles of soldering
- Working with wire
  - Striping, tinning, joining to PCB
  - Joining and splicing
  - Heat shrink and insulation
  - Thick, multi-core wires
- Through-hole parts
  - The Lost World

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# Topics to cover today

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- SMD passives
  - Point to point, Pre-tin, Reflow
- SMD ICs: SOT-23/SOIC/TSSOP
  - Point to point, Tack and Drag, Pre-tin, Reflow
- QFN
  - Descent into madness

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# Tune-in next time for...

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## Design for 3D Printing

*or*

“Today the replicator, tomorrow the holodeck!”

Fun fact: There is no safe exposure threshold for lead – no amount of lead is too small to cause you harm.