



Institiúid Teicneolaíochta Chorcaí  
Cork Institute of Technology

## ELTR6012: Electronics Applications 2

### Module Details

<b>Short Title:</b>	Electronics Applications 2 <b>APPROVED</b>		
<b>Full Title:</b>	Electronics Applications 2		
<b>Module Id:</b>	2790		
<b>Official Code:</b>	ELTR6012	<b>NFQ Level:</b>	6
		<b>ECTS Credits:</b>	5

<b>Coordinator:</b>	JOSEPH CONNELL
---------------------	----------------

<b>Description:</b>	This module introduces the student to PCB design with the project design linking to the theory being studied in other subjects. It allows the student to disassemble more advanced electronic devices and relate them to their block diagram.
---------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### Learning Outcomes:

*On successful completion of this module the learner will be able to...*

1. Disassemble an electronic device and relate the subassemblies to the block diagram
2. Construct an electronic/ electromechanical device
3. Use an industry standard package for Electronic Design Automation
4. Produce a Printed Circuit Board, populate and test the finished board
5. Produce a report on a completed project

### Pre-requisite learning

#### Module Recommendations

*This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named CIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).*

Electronic Applications 1

#### Incompatible Modules

*These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.*

No incompatible modules listed

#### Module Requirements

*This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.*

No requirements listed



## Module Content &amp; Assessment

## Indicative Content

- **Disassemble an electronic device**

Disassemble a device chosen from the field of computers, control or communication; Relate the device to an appropriate block diagram; Link it to the theory studied in other subjects; Reassemble the device in full working order

- **Construct an electronic/ electromechanical device**

Research, construct and evaluate a simple electronic/ electromechanical device

- **Electronic Design Automation**

Schematic capture; Circuit simulation; PCB Layout; Applying design rules

- **Produce a Printed Circuit Board**

Convert the layout from the EDA process to a finished PCB; Through-hole, Surface Mount Device technologies; Safety issues

- **Write a report**

Present the work completed on the EDA and PCB construction projects in report format

## Assessment Breakdown

## %

Course Work

100%

End of Semester Formal Examination

0%

## Coursework Breakdown

Type	Description	Outcome addressed	% of total	Assessment Date
Performance Evaluation	As part of a team, disassemble an electronic device and build a specified device	1,2	15	Week 3
Project	Schematic capture, simulation and PCB layout	3	40	Week 8
Project	Fabricate, assemble and test a PCB	4	25	Week 11
Written Report	A short structured report (max. 5 pages) on their work	3,4,5	20	Sem End

**The institute reserves the right to alter the nature and timings of assessment**



Institiúid Teicneolaíochta Chorcaí  
Cork Institute of Technology

## ELTR6012: Electronics Applications 2

### Module Workload & Resources

Workload		Full-time mode			
Type	Description	Hours	Frequency	Average Weekly Learner Workload	
Lab	Various activities in workshop and laboratory environment	4	Every Week	4.00	
Independent & Directed Learning (Non-contact)	Independent research and report preparation	3	Every Week	3.00	
Total Weekly Learner Workload				7.00	
Total Weekly Contact Hours				4.00	

Workload		Part-time mode			
Type	Description	Hours	Frequency	Average Weekly Learner Workload	
Lab	Various activities in workshop and laboratory environment	3	Every Week	3.00	
Independent & Directed Learning (Non-contact)	Independent research and report preparation	4	Every Week	4.00	
Total Weekly Learner Workload				7.00	

Resources	
<i>Other Resources</i>	
<ul style="list-style-type: none"> <li>• Website: <a href="http://www.howstuffworks.com/">http://www.howstuffworks.com/</a></li> <li>• Website: <a href="http://www.epanorama.net/">http://www.epanorama.net/</a></li> <li>• Website: <a href="http://ie.farnell.com/">http://ie.farnell.com/</a></li> <li>• Website: <a href="http://www.radionics.ie/">http://www.radionics.ie/</a></li> <li>• Website: <a href="http://www.komplett.ie/">http://www.komplett.ie/</a></li> <li>• Website: Other websites to be advised at commencement of study period</li> </ul>	