



Waterford Institute of Technology  
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE

ICT Skills Programme



# Higher Diploma in Science in Computer Science

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# Structure of the Programme

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## Semester 1 (30 Credits)

*All Mandatory*

Programming

*10 credits*

Computer Networks

*5 credits*

Web Development

*5 credits*

Computer Systems

*5 credits*

Database

*5 credits*

## Semester 2 (30 credits)

*Specialisms (select 2)*

*Mandatory*

Mobile App  
Development

*10 credits*

Project/Summer School

*5 credits*

Enterprise Service  
Development

*10 credits*

Developer Operations

*5 credits*

Security & Forensics

*10 credits*

## Semester 3 (30 credits)

Project/Placement

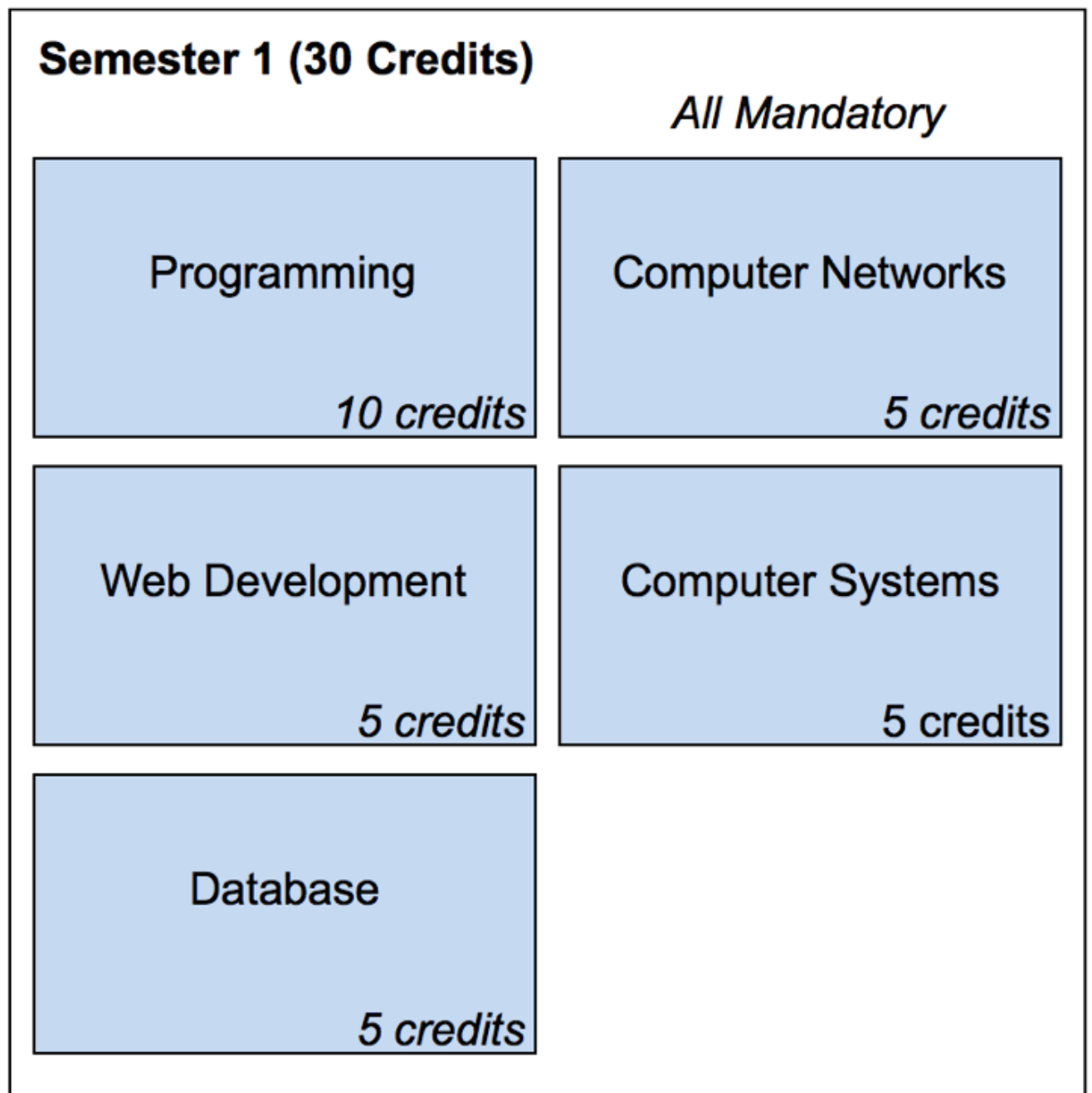
*30 credits*

*Mandatory*

# Semester 1

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*“..a broad immersive set of modules in the fundamentals of computing covering software development, systems analysis & testing, databases, architecture, OS & networking, web design / user-experience..”*



# Semester 1: Summer School

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Project/Summer School

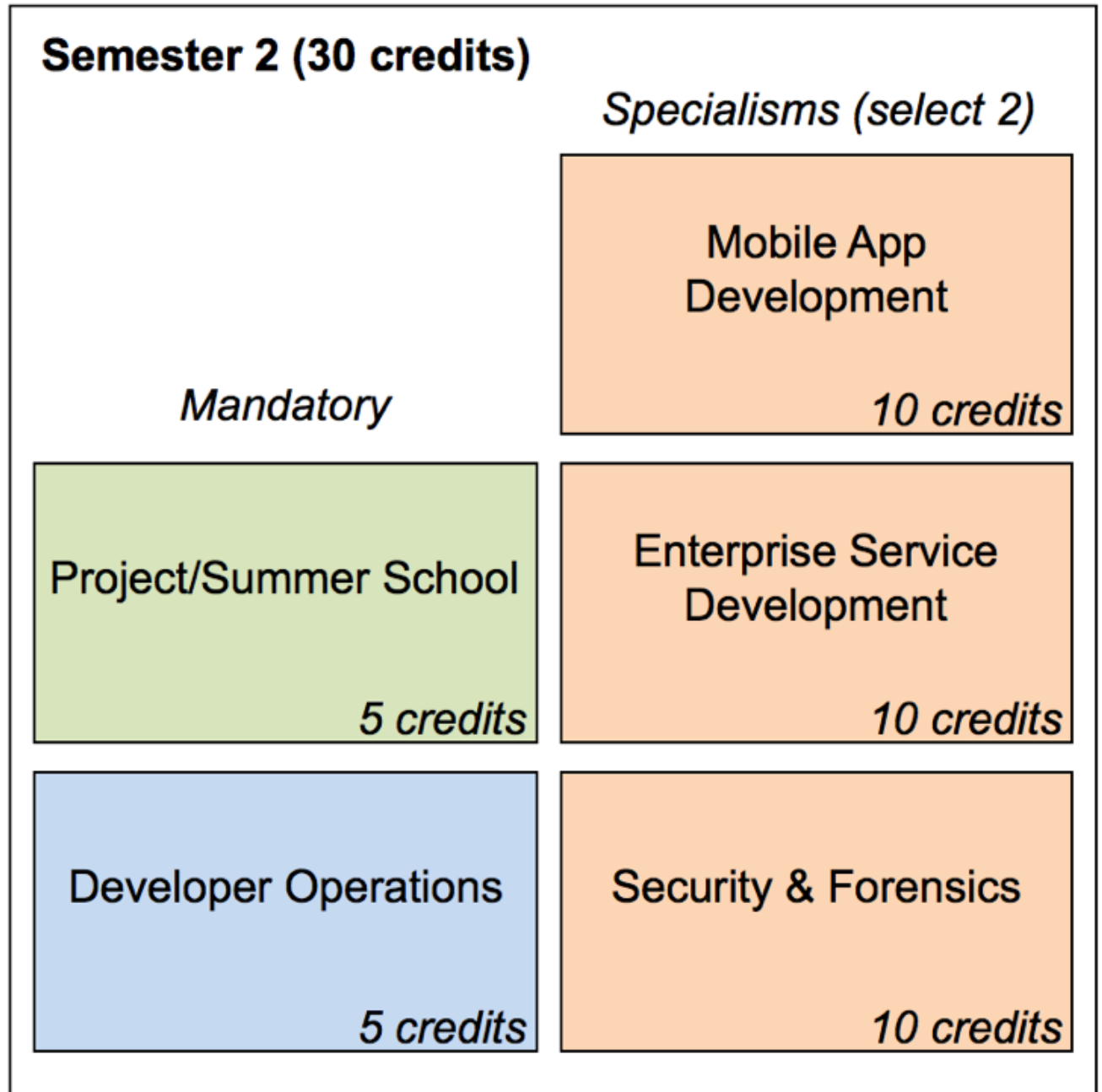
*5 credits*

## Key Features:

- Commences at conclusion of foundation modules.
  - 5-week duration
  - Students to relocate to TSSG Cariganore campus for the duration
- *Industry Partner Engagement:* partners invited to participate in ongoing seminars to present their industry segment/core technology, candidate project ideas and placement opportunities
  - *TSSG Research Group Exposure:* Researchers will present on topics relevant to the programme and to the level of its participants. Students will be invited to contribute State-of-the-Art reviews for selected topics
  - *Student Project Proposal:* A central part of the summer school is the evolution of a student project proposal.
  - *Ongoing Tuition:* Programming tuition will continue during this period via supervised labs, ongoing assessed project work.

# Semester 2

*“In semester 2 students are expected to take a specialisation which reflects their own strengths as demonstrated on the programme to date...”*



# Semester 3

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*“Internships or work placements are seen as crucial to providing graduates with the context and confidence in their new knowledge. ...academic and industry partners will cooperate in the provision of appropriate academic supervision resources for the duration of this work placement activity...”*

## Project Lifecycle:

- Develop a project proposal draft during the summer school in consultation with partners
- Academic Project supervisor appointed in Semester 2
- Ongoing contact with supervisor during Semester 3
- Project assessed a conclusion

### Semester 3 (30 credits)

Project/Placement

30 credits

*Mandatory*

# Project Deliverable

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- Comparable in scale to your final assignment in Web/Mobile
- Documented in Project Report (approx 40 pages including diagrams and appendices)
- Presentation to a panel at end of May
- Grade appears on Graduation Transcript
- However, grade not included in award level

# Project Milestones

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- End of January: Project Proposal (in consultation with supervisor)
- Mid March: Project Interim Report 1
- Mid April: Project Interim Report 2
- End of May: Project Final Report + Presentation Slides



# Project Styles

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- A Project allocated by your work experience supervisor, representing a reasonably independent work work package you have been implementing on your placement:
  - A standalone application
  - A component of a larger system
  - A new or improved workflow / business process serving some need in the workplace
- A 'Pet Project', unrelated to work experience, consisting of an implemented software system designed to explore or consolidate knowledge in a specific domain
- A 'Research Paper' - similar in style to your assignment 2 research note, but more extensive. Explores a specific topic or set of topics and developed to conference paper standard. May or my not be related to work experience