



Waterford Institute of Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE

ICT Skills Programme



Higher Diploma in Science in Computer Science

Summer School

Structure of the Programme

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

Project/Summer School

5 credits

Developer Operations

5 credits

Mobile App
Development

10 credits

Enterprise Service
Development

10 credits

Security & Forensics

10 credits

Semester 3 (30 credits)

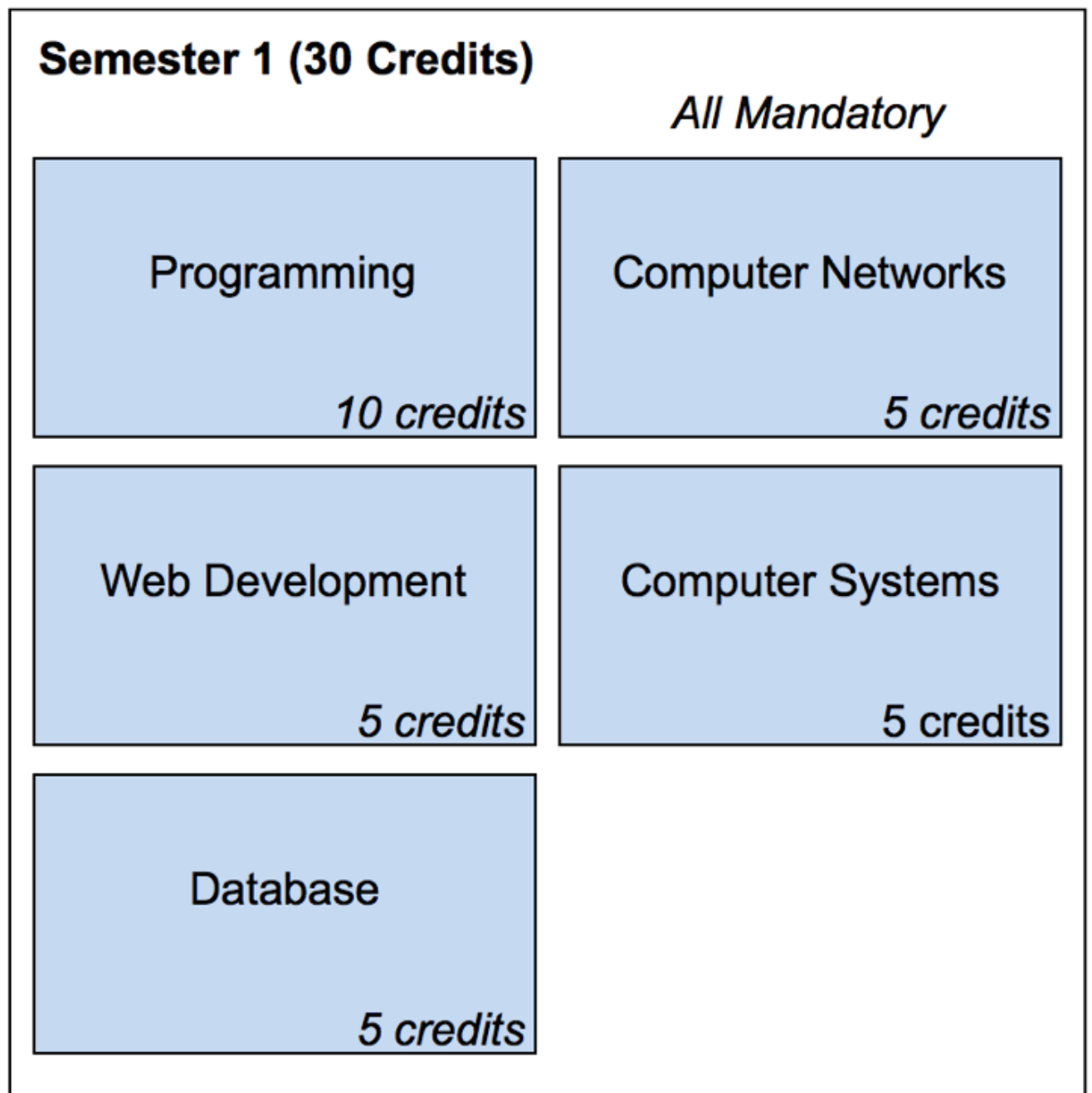
Project/Placement

30 credits

Mandatory

Semester 1

“..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

Project/Summer School

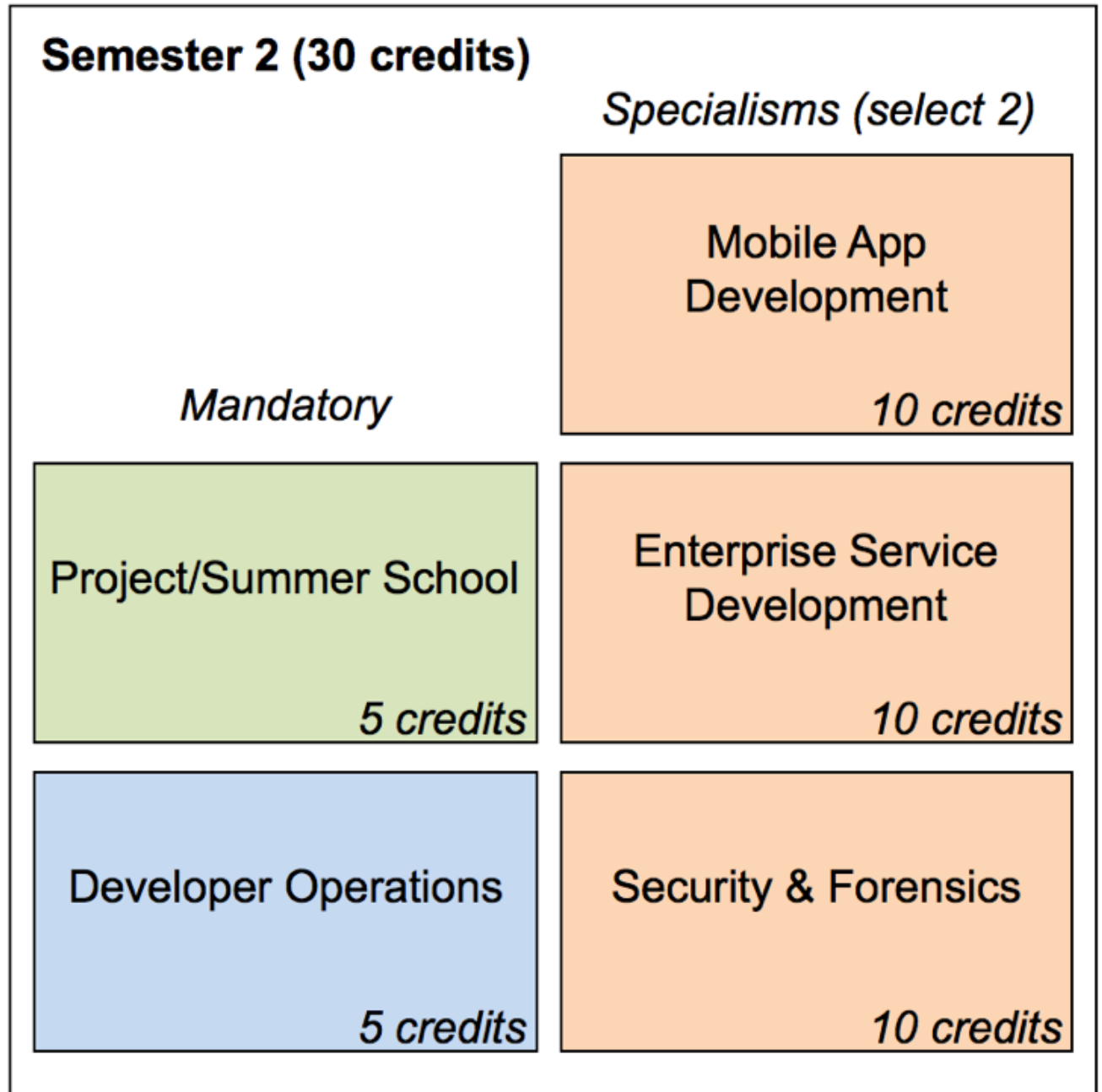
5 credits

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

“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

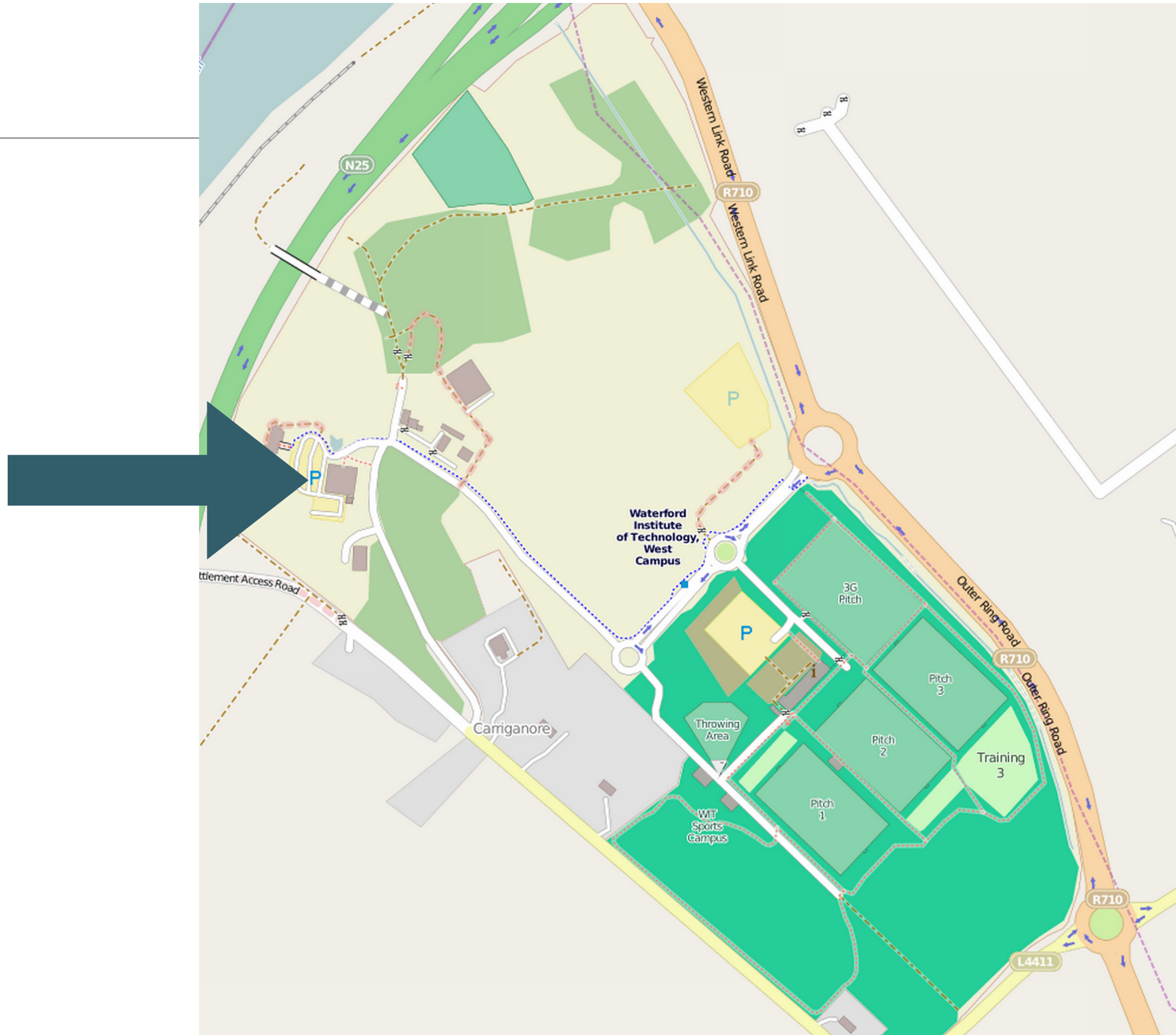
30 credits

Mandatory

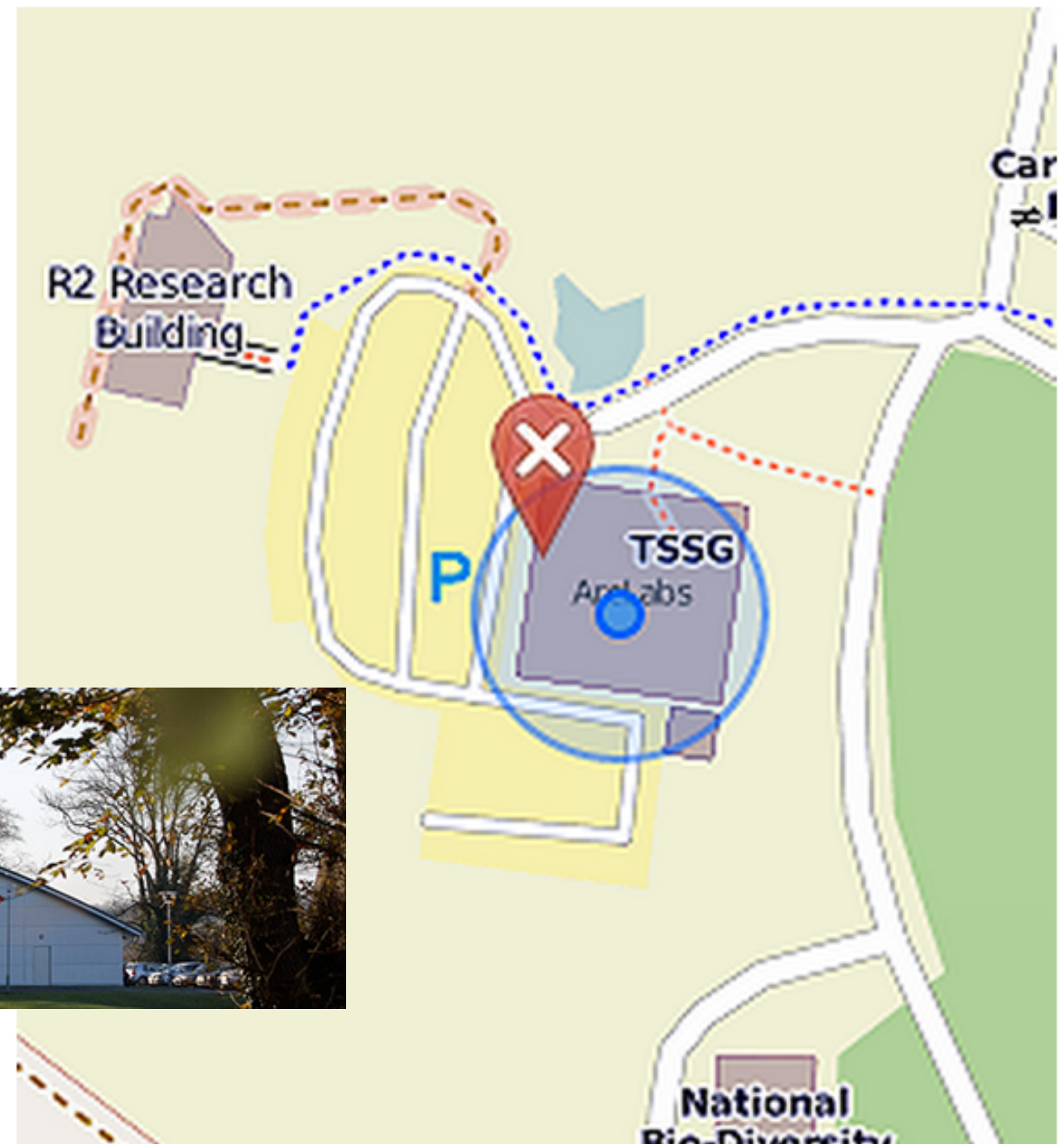
Summer School / ICT Skills Studio

- Venue: Main Board Room - Arclabs R1, WIT Knowledge Campus
- Start Date: Tuesday June 31
- End Date: Thursday July 7th





Main Boardroom



WGS 84 Latitude/Longitude Coordinates for
your SatNav device: N 52.2536118, W
-7.1875053

Schedule

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|-----------|--------|--------------------------------|------------------------------------|--------------------------|--------|
| Am (9-12) | | <i>ICTSkills Learnings</i> | <i>ICTSkills Studio</i> | <i>Tech Talks</i> | |
| Pm (2-5) | | | | <i>Career Skills</i> | |

- Facilities - including desks and internet connectivity - will be available for the full 5 weeks, and you are encouraged to make liberal use the space and environment.
- There is a full canteen on site

ICT Skills Studio

- The programme will start with an introduction to Git + JavaScript Fundamentals (including introduction to JQuery).
- Once this is concluded, you will be presented with the specifications (and running instances) of a number of web applications.
 - Your challenge will be to design, build and deploy these applications.
 - You will be provided with starter instructions and guidance as to a viable structure for these apps.
 - At the end of each week solutions/partial solutions will be released for you to compare your work with or as a basis for the following week.
- You are encouraged to attempt these apps in your own style - and with your own thinking as to how the apps should be structured
 - The lab materials will be similar to the Web Development labs, but less prescriptive (scaffolded) and will encourage you to be more autonomous

2 Deliverables!

- ICT Skills Studio Programming Project
- Placement Project Outline

ICT Skills Studio Programming Project

- A Play Web app - due to be submitted August 31st.
- The brief for this assignment will be presented during the summer school
- It will be comparable in effort and scope to Assignment 2 of Web development

Project Outline

- Although not a requirement - we will encourage you to prepare a project outline proposal(s) (1 page) or candidate project ideas for your placement.
- This is for guidance only, and does not represent a commitment yet
- However, it may be a useful as an agenda setter for project specification in the autumn term (in conjunction with an academic supervisor)

Summer School Objectives

- Become familiar with ICT Skills Industrial partners
- Continue to develop your programming skills
- Consider evolving a Final Project Outline (in draft form)
- Take advantage of the location, proximity to Arclabs Companies / TSSG Researchers
- Nice Canteen and hangout areas
- Use the time and space!

Seminar Series

- Currently 11 companies have agreed to provide stimulating talks
- + 4/5 TSSG Research Units will be participating with 1 or 2 talks each
- Before the school commences we will have a complete programme.
- Each seminar will be hosted by one of the course team, will consist of 3 x 30 minute talks with ample time for Q&A

- **Industry**
 - Delaware
 - Dataworks
 - Nearform
 - Emagine Media
 - Bright Lights
 - OSS Solutions
 - Sun Life
 - Done Deal
 - Feed Henry
 - + others

- **TSSG**

- 3MT (Mobile, Messaging & Middleware) -
- Emerging Networks Laboratory
- Data Mining & Social Computing
- Security & Trust
- Experimental Facilities Management