



Ollscoil  
Teicneolaíochta  
an Atlantaigh

Atlantic  
Technological  
University

# HDip in Science in Computing for Educators



[atu.ie](http://atu.ie)





This unique course allows educators to engage with material that will provide them with confidence and technical skills to deliver ICT in schools. The certificates have been carefully crafted to ensure that educators will be given opportunity to gain proficiency and derive tangible elements for their own classrooms.

## Choose any 6 modules for the HDip for Educators qualification.

Module	Blocks	Date(s)
Introduction to Coding with Animation and Games	1 & 5	Oct 2023 Feb 2024
Coding with Syntax	3 & 6	Nov 2023 Apr 2024
Computer Systems	2 & 6	Nov 2023 Apr 2024
Web Development and HCI	5	Feb 2024
Block Based Mobile Applications Development	2 & 3	Nov 2023 Nov 2023
Robotics for the Classroom	4	Jan 2024
Digital Citizenship	3	Nov 2023
Database Technology	1	Oct 2023
Data Science	3	Nov 2023
Delivering Applied Learning Tasks	2-> 4	Nov 2023
Technology for the Primary Classroom	5	Feb 2024
Computer Science Unplugged	1	Oct 2023
Project Management	2 & 6	Nov 2023 Apr 2024
Software Engineering	1 & 4	Oct 2023 Jan 2024



I completed the Higher Diploma in Computing for Educators in 2018-19. I found the workload was completely doable. The workshops that were held during the weekends and the support from the lecturers made this possible. I ended up completing another five modules. I have since received Teaching Council registration.

**Rose Stockdale - Programme Participant 2018/2019**

Since finishing the course in May 2020, I have my H.Dip recognised by the teaching council and started a code club in the school. I threw myself in at the deep end, taking all 6 modules in one year. I was worried about the workload but the lecturers were extremely helpful and the timetable was excellent. All modules started from the beginning, no prior knowledge was needed.

**Ciaran Curran - Programme Participant 2019/2020**

The HDip in Science in Computing for Educators is the perfect course for non-computing specialists as there is no prior knowledge required. Modules are packed full of excellent student-friendly resources ready to be brought back to the classroom. Modules are well planned out with plenty of time given to complete assignments. I would highly recommend this course for anyone who wants to expand their computing knowledge.

**Mark Deane - Programme Participant 2022/2023**

## Module Timetables - Quick Look

Module delivery Modules will be delivered within Blocks. There will be 6 Blocks per academic year. Blocks 1,2,3 & 4 have 4 modules per Block, Block 5 will have 3 and Block 6 will have 2. Reading dates will take place on the Monday and Wednesday before each Saturday session. All modules are online apart from Robotics for the classroom, where the second Saturday (27/01/2024) will be held in the ATU Donegal Campus.

All modules will be structured with 2 reading dates followed by a Saturday session followed by 2 more reading dates before the final Saturday session. The only module that will differ from this structure is the Delivering Applied Learning Tasks module. This will take place over 4 Saturdays in Blocks 2 and 5.

Block 1		Block 2	
Activity	Date	Activity	Date
Reading Date 1	09/10/2023	Reading Date 1	13/11/2023
Reading Date 2	11/10/2023	Reading Date 2	15/11/2023
Saturday Session	14/10/2023	Saturday Session	18/11/2023
Reading Date 3	06/11/2023	Reading Date 3	04/12/2023
Reading Date 4	08/11/2023	Reading Date 4	06/12/2023
Saturday Session	11/11/2023	Saturday Session	09/12/2023

Block 3		Block 4	
Activity	Date	Activity	Date
Reading Date 1	27/11/2023	Reading Date 1	08/01/2024
Reading Date 2	29/11/2023	Reading Date 2	10/01/2024
Saturday Session	02/12/2023	Saturday Session	13/01/2024
Reading Date 3	11/12/2023	Reading Date 3	22/01/2024
Reading Date 4	13/12/2023	Reading Date 4	24/01/2024
Saturday Session	16/12/2023	Saturday Session	27/01/2024

Block 5		Block 6	
Activity	Date	Activity	Date
Reading Date 1	19/02/2024	Reading Date 1	08/04/2024
Reading Date 2	21/02/2024	Reading Date 2	10/04/2024
Saturday Session	24/02/2024	Saturday Session	13/04/2024
Reading Date 3	04/03/2024	Reading Date 3	15/04/2024
Reading Date 4	06/03/2024	Reading Date 4	17/04/2024
Saturday Session	09/03/2024	Saturday Session	20/04/2024

# Block 1

Activity	Date
Reading Date 1	09/10/2023
Reading Date 2	11/10/2023
Saturday Session	14/10/2023
Reading Date 3	06/11/2023
Reading Date 4	08/11/2023
Saturday Session	11/11/2023

## Introduction to Coding and Animation and Games

Introduction to Coding with Animation and Games is taught via a block-based coding platform such as Scratch. This is a good introduction to computer programming for primary and post-primary educators.

## Software Engineering

Software engineering is an engineering discipline which is concerned with all aspects of software production, it is concerned with theories, methods and tools for professional software development. Learners will evaluate the engineering methods, processes, techniques and measurements which are part of software engineering.

## Database Technology

This module will provide the learner with a general understanding of a database and its application in a database environment. Learners will be introduced to basic data extraction and management techniques.

## Computer Science Unplugged

This module will introduce students to the concept of teaching Computer Science in an engaging and meaningful way, using a formal pedagogical strategy. Students will learn how computational thinking can be taught in a way that allows children to discover answers for themselves using a constructivist approach, without the need for specialised equipment.

# Block 2

Activity	Date
Reading Date 1	13/11/2023
Reading Date 2	15/11/2023
Saturday Session	18/11/2023
Reading Date 3	04/12/2023
Reading Date 4	06/12/2023
Saturday Session	09/12/2023

## Computer Systems

This module provides learners a general description of the key hardware components of a generic computer system. Learners will gain knowledge of computer architecture, operating systems and network technologies.

## Project Management

This module is designed to teach the essential skills students need to make effective contributions and to have an immediate impact on the accomplishment of projects in which they are involved. Students will learn techniques required to plan, manage and control projects.

## Block Based Mobile Application Development

This module teaches educators how to use a web-based app builder such as Thinkable to teach mobile computing in the classroom. These technologies are very accessible, and are excellent tools for children as young as 10 to learn how to create mobile apps. Web-based app builders work well in the primary, lower secondary or Transition Year classroom, or in coding clubs.

## Delivering Applied Learning Tasks

This module will seek to prepare learners to deliver the four Applied Learning Tasks on the Leaving Certificate Computer Science subject. Delivery of this module involves four Saturday sessions, with one Saturday for each ALT. This is to accommodate the heavily practical element of this module.

# Block 3

Activity	Date
Reading Date 1	27/11/2023
Reading Date 2	29/11/2023
Saturday Session	02/12/2023
Reading Date 3	11/12/2023
Reading Date 4	13/12/2023
Saturday Session	16/12/2023

**Coding with Syntax**  
 This module allows learners to gain experience of core programming concepts such as abstraction, decomposition and algorithmic development. These concepts are applied using a modern programming language such as python. Some experience of coding (or completion of the Introduction to Coding with Animation and Games) is recommended.

**Data Science**  
 Data Science includes obtaining, managing, analysing and visualising data to understand and extract knowledge. This module will provide the learner with the skills to demonstrate the effective use of statistical methods within a data science project. It will introduce the fundamental elements of a data science project, and how each element facilitates the data science lifecycle.

**Block Based Mobile Application Development**  
 This module teaches educators how to use a web-based app builder such as Thunkable to teach mobile computing in the classroom. These technologies are very accessible, and are excellent tools for children as young as 10 to learn how to create mobile apps. Web-based app builders work well in the primary, lower secondary or Transition Year classroom, or in coding clubs.

**Digital Citizenship**  
 This module will guide learners to become a digital citizen that understands the rights and responsibilities of inhabiting cyberspace. The main material covered in the module will seek to develop the learners' knowledge as it pertains to implementing and instilling digital citizenship at primary and post-primary level.

# Block 4

Activity	Date
Reading Date 1	08/01/2024
Reading Date 2	10/01/2024
Saturday Session	13/01/2024
Reading Date 3	22/01/2024
Reading Date 4	24/01/2024
Saturday Session	27/01/2024

**Computer Systems**  
 This module provides learners a general description of the key hardware components of a generic computer system. Learners will gain knowledge of computer architecture, operating systems and network technologies.

**Robotics for the classroom**  
 Robots are excellent tools for learning about computing, engineering, programming and teamwork. This module allows learners to gain experience of the various Robot platforms that are available for use in the classroom. Learners will choose, assemble, and program a Robot that is appropriate to their own professional context such as Lego Mindstorm, Raspberry Pi, and Arduino.

\*The second Saturday session for Robotics for the Classroom will take place in ATU Donegal on the 27th of January 2024

**Software Engineering**  
 Software engineering is an engineering discipline which is concerned with all aspects of software production, it is concerned with theories, methods and tools for professional software development. Learners will evaluate the engineering methods, processes, techniques and measurements which are part of software engineering.

**Delivering Applied Learning Tasks**  
 This module will seek to prepare learners to deliver the four Applied Learning Tasks on the Leaving Certificate Computer Science subject. Delivery of this module involves four class-based Saturday sessions, with one Saturday for each ALT. This is to accommodate the heavily practical element of this module.

# Block 5

# Block 6

Activity	Date
Reading Date 1	19/02/2024
Reading Date 2	21/02/2024
Saturday Session	24/02/2024
Reading Date 3	04/03/2024
Reading Date 4	06/03/2024
Saturday Session	09/03/2024

Activity	Date
Reading Date 1	08/04/2024
Reading Date 2	10/04/2024
Saturday Session	13/04/2024
Reading Date 3	15/04/2024
Reading Date 4	17/04/2024
Saturday Session	20/04/2024

**Introduction to Coding with Animation and Games**  
 Introduction to Coding with Animation and Games is taught via a block-based coding platform such as Scratch. This is a good introduction to computer programming for primary and post-primary educators.

**Coding with Syntax**  
 This module allows learners to gain experience of core programming concepts such as abstraction, decomposition and algorithmic development. These concepts are applied using a modern programming language such as python. Some experience of coding (or completion of the Introduction to Coding with Animation and Games module) is recommended.

**Technology in the Primary Classroom**  
 This module will introduce the learner to a range of accessible and inclusive apps and interactive media for use in the primary school classroom. Learners will be provided an opportunity for exploration of these apps across curriculum areas and will appraise them in terms of their own contextual application.

**Project Management**  
 This module is designed to teach the essential skills students need to make effective contributions and to have an immediate impact on the accomplishment of projects in which they are involved. Students will learn techniques required to plan, manage and control projects.

**Web Development and HCI**  
 The learner will use HTML, CSS, and web authoring software to develop standards-compliant web sites. Learners will learn about information architecture, interface design, usability and accessibility and they will apply these techniques when developing websites.



# Frequently Asked Questions

## Which module should I start with?

You can choose to begin with any module, but Introduction to Coding with Animation and Games is a good starting point. This module is a good introduction to coding via a block based platform such as Scratch. It is relevant to educators at all levels and leads nicely into other modules which involve coding such as Coding with Syntax, Block-Based Mobile Application Development, Web development and HCI and Data Science.

## Are there any mandatory modules in the course?

No, since the beginning of the academic year 2022/23 all modules are elective.

## What level of prior computing knowledge is needed?

No prior knowledge is presumed but we would recommend taking Introduction to Coding with Animation and Games before taking the Coding with Syntax module.

## How and when can I apply for the course?

You can apply at any stage and simply take the next relevant module. There is no closing date for applications, but you should apply at least two weeks before the start of the module. The application form is at the end of this document.

### Registry Office

Atlantic Technological University, ATU  
Port Road,  
Letterkenny,  
Co Donegal F92 FC93  
or submit by e-mail to:  
[admissions.donegal@atu.ie](mailto:admissions.donegal@atu.ie)

## How many modules should I do in a year?

You can do as many or as few as you like in a year. In the past some educators have done six modules in a year, whilst others have done one or two modules in a year. Many educators choose to complete the HDip over two years.

## How much does the course cost?

The cost for the programme differs slightly in the normal way a programme would cost, because there are different pathways to achieving the HDip for Computing for Educators. The programme itself is made by successfully completing the required 60 credits to achieve the HDip. Every module is worth 10 Credits, so once you have completed 6 modules you are awarded the HDip. Each module costs €200, so in effect the cost for the entire programme is €1200.

## Is the course validated by the Teaching Council?

The Teaching Council no longer validates courses. Instead, students must complete a course of study and present the course, as an individual, to the TC for review. In the past we have had several graduates of the course successfully gain TC recognition. When choosing modules educators should pay particular attention to Teaching Council guidelines. These state that in order to meet the registration requirements set down in the Teaching Council [Registration] Regulations in respect of the curricular subject of Computer Science, an applicant must meet the criteria set out in Page 2 of the document at: <https://www.teachingcouncil.ie/en/pme/computer-science-sdf-2023.pdf>

## How many modules do I need to take?

Completion of a module allows a participant to gain a Certificate. Each certificate is worth 10 ECT credits and is at level 8. Educators can take as many or as few of the certificates as they wish but completing 6 certificates will enable the participant to convert their 60 credits into a Higher Diploma in Computing for Educators.

## Which modules are relevant to primary school teachers?

The following modules are particularly relevant to educators working in the primary school sector:

- > Introduction to Coding with Animation and Games
- > Technology in the Primary Classroom
- > Computer Science Unplugged
- > Robotics for the classroom
- > Block-Based Mobile Application Development
- > Digital Citizenship

## I want to teach Computing / ICT at Junior Cert or Transition Year level. Which modules should I consider?

The following modules are particularly relevant to educators teaching Junior Cert or Transition year:

- > Introduction to Coding with Animation and Games
- > Coding with Syntax
- > Web Development and HCI
- > Digital Citizenship
- > Robotics for the classroom
- > Block-Based Mobile Application Development



Any further questions please contact admissions by phone on 074 91 86000, or via email, [admissions.donegal@atu.ie](mailto:admissions.donegal@atu.ie), or contact Gary Cullen at [gary.cullen@atu.ie](mailto:gary.cullen@atu.ie)

## I want to teach Leaving Certificate Computer Science. Which modules should I consider?

When choosing modules with a view to teaching Leaving Certificate Computer Science, educators should pay particular attention to Teaching Council guidelines. These state that in order to meet the registration requirements set down in the Teaching Council [Registration] Regulations in respect of the curricular subject of Computer Science, an applicant must meet the Areas set out in Page 2 of the document at: <https://www.teachingcouncil.ie/en/pme/computer-science-sdf-2023.pdf>

The following table shows how we see our modules mapping to current Teaching Council requirements. Note that the Teaching Council will only accept applications for accreditation from individual teachers so there is no guarantee of Teaching Council registration.

Teaching Council Essential Areas	Relevant HDip modules
Project Management	Project Management
Software Engineering	Software Engineering
Programming	Coding with Syntax
Computer Systems	Computer Systems

  

Teaching Council Optional Areas	Relevant HDip modules
Web development	Web Development and HCI
Animation/games/multimedia development	Introduction to Coding with Animation and Games
App development	Block-Based Mobile Application Development
Robotics	Robotics for the classroom
Embedded systems	
Modelling/simulation	
Data analysis	Data Science
Databases	Database Technology
Machine learning/AI	

## What happens if the Teaching Council change their requirements?

The Teaching Council can change these Areas for new applicants and indeed did so in 2022, amending the Essential Areas to include Software Engineering and Project Management. ATU Donegal adapted the HDip programme to incorporate these new areas, offering Software Engineering and Project Management modules from September 2022 to address this. We will continue to adapt to changing requirements when necessary.







## Section 3: Previous Third Level Education (Higher Education) (if applicable)

Please list your qualifications in order of completion (most recent first).

Higher Education Institution Attended	Years of Study (From – To) (MM/YY)	Full Award Title	Award Type (e.g. Ord Degree – Level 7; Hons Degree – Level 8; Masters – Level 9)	Overall Result (if known)

Attach transcripts of results for qualifications

## Section 4: Relevant Work Experience Employer One (if applicable)

**Name of Employer:**  
(state Self, if Self Employed)

**Address:**

**Phone number:**

**Position Held:**

**Dates of Employment (mmyy):** From:  To:

**Brief Description of Duties:**

## Employer Two (if applicable)

**Name of Employer:**  
(state Self, if Self Employed)

**Address:**

**Phone number:**

**Position Held:**

**Dates of Employment (mmyy):** From:  To:

**Brief Description of Duties:**

## Section 5: Fee Payment by Employer/Other (if applicable)

If your fees are being paid by your employer or another organisation, please insert details below.

**Employer/Organisation:**

Attach a statement from the relevant organization stating they are paying your fees.

## Section 6: Confidentiality & Data Protection Statement

The information you provide on this form will be used to administer your application for a programme and, should you be successful, will form the basis of your student record. Some data submitted, including PPSN, may be used for the purpose of statutory and other returns required by the Department of Education or Higher Education Authority and may also be released to the Department of Social Protection in connection with their Anti-Fraud checks. Additional information or documents may be requested to process the application and verify information submitted.

By ticking the box opposite you agree that:

- (i) ATU DONEGAL may process your personal information;  
(ii) All information entered on this form is true, accurate and complete.

**Signature of Applicant:**  **Date:**

Please return the completed application form together with supporting documentation: by email to:  
**admissions.donegal@atu.ie**

# Application Form Guidelines

Please read carefully before completing this application form.

1. This application form needs to be completed by applicants applying for Direct Entry to:
  - (a) Add-on courses (follow-on Degree, Ordinary and Honours). Please note that if you are a current ATU student you do not need to complete this application form, contact the Admissions office for details.
  - (b) Part-time Undergraduate Courses leading to a "Full" Major award e.g. Ordinary Degree, Honours Degree or Higher Certificate.
  - (c) External admission to the second and subsequent year of any course.
  - (d) Admission as an ACCS/Part-time Student (see point 2 below).

NB If you wish to apply for first year as a full-time student you must apply via [www.cao.ie](http://www.cao.ie) while students applying for Postgraduate Programmes should use the Postgraduate Application Form. Applicants for Minor/Special Purpose Certificates/Diplomas should apply using the Lifelong Learning Application Form.

2. Accumulation of Credits and Certification of Subjects (ACCS): The ACCS scheme allows you to study a portion of a full-time course on a part-time basis. All ACCS applicants must, in addition to this form, complete a supplementary form to indicate the modules being applied for, which is available from the Admissions Office.
3. If you have a disability, a significant ongoing illness and/or specific learning difficulty you are encouraged to indicate this on the appropriate section of the application form. This will allow us to plan and consider, in consultation with you, any reasonable accommodations that we can make. (Please note that disclosure of a disability and/or specific learning difficulty will not adversely affect your application in any way.)
4. The closing date for receipt of applications for courses is available on the relevant course webpage. Late applicants will only be processed at the absolute discretion of ATU.
5. Supporting Documentation: Please enclose certified copies of any Higher Education qualifications or transcripts of results with your application. Do not send original documents as any documentation submitted will not be returned.
6. Applicants presenting qualifications other than the usual NFQ Level 6, 7 & 8 awards, must attach the following with their application:
  - a) A copy of the syllabus on which their award is based
  - b) A certified copy of the examination transcript, showing the award title and the grades/marks achieved. Where the above information is not in Irish or English, notarised translations must be provided.
7. Suitably qualified applicants may be called to interview for certain courses
8. Offers: First offers for courses listed at 1(a), 1(b) and 1(c) will normally be issued in July. There may be subsequent offers in August/September. All offers will issue by email.
9. Fees: For information relating to fees see the Fees section of our website, [www.atu.ie](http://www.atu.ie)
10. For further information on applying to ATU please visit our website at [www.atu.ie](http://www.atu.ie) or alternatively, you may contact the Admissions Office at (074) 918 6125 / 918 6127 / 918 6129 admissions. [donegal@atu.ie](mailto:donegal@atu.ie)





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