

Leaving Certificate Applied

Draft Introduction to Information and Communication Technology

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Introduction

Senior cycle

Senior cycle students are approaching the end of their time in school and are focusing on the directions they would like to take in their future lives. Senior cycle plays a vital role in helping students to address their current needs as young adults and in preparing them for life in a changing economic and social context.

Senior cycle is founded on a commitment to educational achievement of the highest standard for all students, commensurate with their individual abilities. To support students as they shape their own future there is an emphasis on the development of knowledge and deep understanding; on students taking responsibility for their own learning; on the acquisition of key skills; and on the processes of learning. The broad curriculum, with some opportunities for specialisation, supports continuity from junior cycle and sets out to meet the needs of students, some of whom have special educational needs, but who all share a wide range of learning interests, aptitudes and talents.

The curriculum at senior cycle promotes a balance between knowledge and skills, and the kinds of learning strategies relevant to participation in, and contribution to, a changing world where the future is uncertain.

Assessment in senior cycle involves gathering, interpreting and using information about the processes and outcomes of learning. It takes different forms and is used for a variety of purposes. It is used to determine the appropriate route for students through a differentiated curriculum, to identify specific areas of difficulty or strength for a given student and to test and certify achievement. Assessment supports and improves learning by helping students and teachers to identify next steps in the teaching and learning process.

The experience of senior cycle

The vision of senior cycle sees the learner at the centre of the educational experience. That experience will enable students to be resourceful, to be confident, to participate actively in society, to build an interest in learning, and to develop an ability to learn throughout their lives.

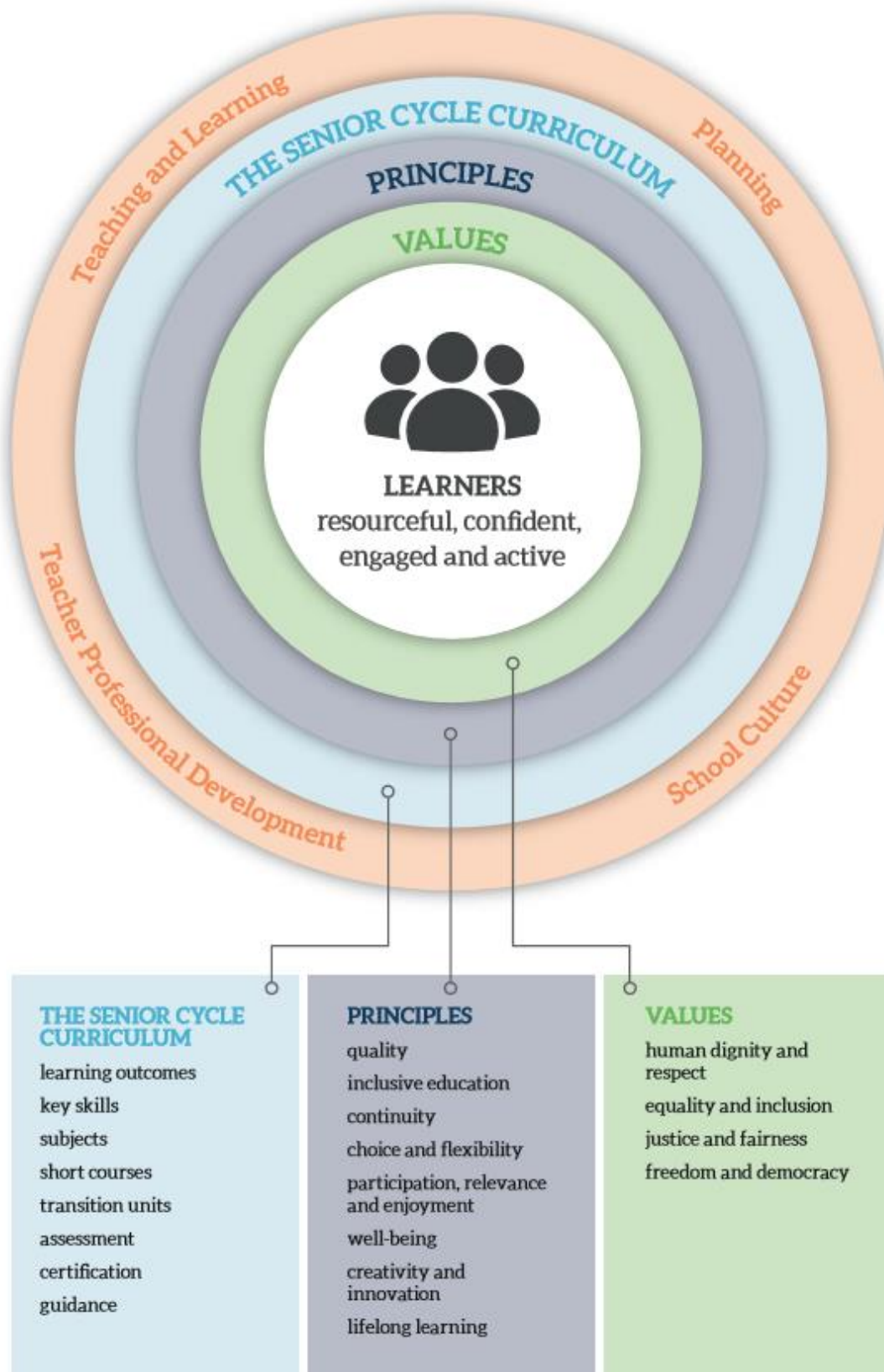
This vision of the learner is underpinned by the values on which senior cycle is based and it is realised through the principles that inform the curriculum as it is experienced by students in schools. The

module descriptor has embedded key skills, clearly expressed learning outcomes, and is supported by a range of approaches to assessment; it is the vehicle through which the vision becomes a reality for the learner.

At a practical level, the provision of a high-quality educational experience in senior cycle is supported by:

- effective curriculum planning, development, organisation and evaluation
- teaching and learning approaches that motivate and interest students, that enable them to progress, that deepen and apply their learning, and that develop their capacity to reflect on their learning
- professional development for teachers and school management that enables them to lead curriculum development and change in their schools
- a school culture that respects students, that encourages them to take responsibility for their own learning over time, and that promotes a love of learning.

Senior cycle education is situated in the context of a broader education policy that focuses on the contribution that education can make to the development of the learner as a person and as a citizen. It is an education policy that emphasises the promotion of social cohesion, the growth of society and the economy, and the principle of sustainability in all aspects of development.



RESOURCEFUL

they show their imagination, intelligence, intuition and other talents through

curiosity
enquiry
open-mindedness
reflection
connecting learning
innovation
problem solving
creativity

CONFIDENT

they develop their physical and mental well-being and

become self-aware
have high self-efficacy
engage with ethics, values and beliefs
welcome opportunities
can cope with setbacks
can effect positive change



LEARNERS

resourceful, confident,
engaged and active

ENGAGED

they participate in the social, community, national and international dimensions of their lives by

showing respect for others
forming and sustaining caring relationships
making informed decisions
building practical know-how
taking interest in and responsibility for their social and physical environment
developing moral/ethical and political understanding
making lifestyle choices that are sustainable
contributing to their own material well-being and the material well-being of society

ACTIVE LEARNERS

they pursue excellence in learning to the best of their ability and develop a love of learning by

seeking and using knowledge, and understanding how knowledge is created
experiencing passion for, rigour in and commitment to learning
developing intellectual and critical thinking skills
exercising autonomy and independence in learning
managing their learning and making learning choices
setting and achieving learning goals
pursuing learning qualifications

Rationale

Information and Communications Technology forms part of the core curriculum for all Leaving Certificate Applied students. It is intended to develop the students' skills, knowledge, attitudes and understanding of Information and Communication Technology to enable them to use digital technology in both their current and future lives. It is also intended to give students the skills and competencies to assess their engagement with future advances in digital technology with a view to maintaining well-being and enhancing self-esteem.

The accelerated expansion of computing technologies and artificial intelligence into our lives means students need to develop digital skills now, more than at any other time. A basic grounding in word processing skills and how to represent information is highly relevant to almost all aspects of life, and to every career choice. This introduction to digital literacy will give students the opportunity to gain practical Information and Communication Technology skills that are valuable over the course of this programme, particularly in presenting student task work and key assignments, for school life and their future lives.

Number and sequence of modules

Both modules to be completed in the sequence presented below.

Module 1: Introduction to the computer and word processing

Module 2: Introduction to other software packages

Description of Modules

Module 1: Introduction to the computer and word processing

This module introduces students to basic concepts and functions of computers. In addition, students will be introduced to the foundations of word processing, to the elementary concepts of the internet and email skills.

Module 2: Introduction to other software packages

This module introduces students to elementary spreadsheets, graphics and presentation packages.

Course overview: Modules and Learning Outcomes

Module	Unit	Learning Outcomes
1. Introduction to the computer and word processing	Introduction to computers	<ol style="list-style-type: none"> 1. Understand and explain key concepts relating to Information and Communication Technology and computers. 2. Understand and explain key concepts relating to devices, storage and software. 3. Explain the key concepts in relation to file storage, management and retrieval. 4. Demonstrate an ability to use basic computer functions effectively.
	Introduction to word processing	<ol style="list-style-type: none"> 1. Create documents and understand how and where to save them 2. Work with a word processing document, apply different formats and insert tables and images. 3. Proof and edit a document before printing. 4. Identify files and folders and recognise common file types. Understand what a file and folder is and know where files, folder and programmes are normally stored.
	The internet and email essentials	<ol style="list-style-type: none"> 1. Understand the concepts and associated risks of the internet and the World Wide Web. 2. Use a web browser and manage settings. 3. Search effectively for information on the internet by using key words, quotation marks for exact phrases and advanced search options.

		<ol style="list-style-type: none"> 4. Understand the structure of an email and be able to create, send and receive email with consideration of security concerns and risks.
2. Introduction to other software packages	Spreadsheets	<ol style="list-style-type: none"> 1. Identify suitable uses for spreadsheets. 2. Create a spreadsheet and enter numeric and character data, apply formulas while understanding their purpose to generate results, format cells and generate a chart and print it. 3. Create and understand logical formulas using standard functions.
	Introduction to the presentation of data	<ol style="list-style-type: none"> 1. Use presentation application software to create an effective presentation and promotional materials. 2. Investigate image editing software. 3. Demonstrate an ability to edit, enhance and present a variety of information graphically.

Module 1: Introduction to the computer and word processing

Purpose

This module has been designed for students with no formal or previous experience in Information and Communication Technology. It will provide an introduction to a range of practical skills and underpinning knowledge that will enable students to use computers confidently in their everyday lives and allow for differentiated learning experiences for the students.

Aims

This module aims to

- introduce students to the essential elements of computer hardware and software
- provide students with the opportunity to use common computer application packages
- develop digital literacy skills
- encourage students to develop good work habits in the use and care of the computer and equipment.

Units

Unit 1: Introduction to computers

Unit 2: Introduction to word processing

Unit 3: The internet and email essentials

Unit 1: Introduction to computers

Learning Outcomes

The student will be able to:

1. Understand and explain key concepts relating to Information and Communication Technology and computers.
2. Understand and explain key concepts relating to devices, storage and software.
3. Explain the key concepts in relation to file storage, management and retrieval.
4. Demonstrate an ability to use basic computer functions effectively.

Teacher Guidelines

The following provides a suggested selection of activities to fulfil the requirements of the learning outcomes:

- Discuss the students' use of computers in their everyday lives. Use this as an opportunity to explore the different types of computers and applications the students use. Students may investigate the different types of computers in use, identifying the strengths and weaknesses of laptops, PCs, tablets, etc.
- Establish ground rules for use of computers in class including log-ins, user names, passwords, security, reporting malfunctioning equipment and shutting down.
- Explore the basic functions of a monitor, mouse and keyboard so that students can select items, move items and issue commands to computer, click, double-click, move with click and drag.
- Explore the differences between hardware and software. If possible teachers could use a functioning or non-functioning computer to investigate the parts and internal functioning of a computer.
- Using contextual tasks, students should explore the functionality of the applications to be used in class.
- Explore the practical trouble shooting for computer set up and applications. Students should devise a trouble-shooting guide for use in class.
- Establish a protocol with students for saving, retrieving and storing documents and files.

Unit 2: Introduction to word processing

Learning outcomes

Students will be able to:

1. Create documents and understand how and where to save them.
2. Work with a word processing document, apply different formats and insert tables and images.
3. Proof and edit a document before printing.
4. Identify files and folders and recognise common file types. Understand what a file and folder is and know where files, folders and programmes are normally stored.

Teacher guidelines

The following provides a suggested selection of activities to fulfil the requirements of the learning outcomes:

- Using relevant contextual tasks students should create, save, file and retrieve documents.
- Explore formatting functions of the word processing package by changing text formatting, font types, font size, bold, underline, italics, cut and pasting text. Students could discuss issues such as user experience and functionality when adjusting and formatting text.
- Students could experiment with inserting graphics, images and tables into a document and adjusting formatting as required.
- Explore the Help functions of the application and how they may be of assistance in completing tasks.
- Use group/pair work to proof documents before printing. Discuss the merits and pitfalls of tools such as spell-check and establish protocols for use.
- Explore how to print preview and print a document from an installed printer using output options, entire document, specific pages, and number of copies.
- Discuss the main types of storage media such as internal hard disk, USB Flash drive, online/cloud file storage that students may use to save their documents.

Unit 3: The Internet and email essentials

Learning Outcomes

The student will be able to:

1. Understand the concepts and associated risks of the internet and the World Wide Web.
2. Use a web browser and manage settings.
3. Search effectively for information on the internet by using key words, quotation marks for exact phrases and advanced search options.
4. Understand the structure of an email and be able to create, send and receive email with consideration of security concerns and risks.

Teacher guidelines

The following provides a suggested selection of activities to fulfil the requirements of the learning outcomes:

- Investigate what the internet is. Explore the concepts of a global, physical network of networks and how it is used to support services like the World Wide Web (WWW) and email.
- Compare and contrast types of resources available on the World Wide Web and the importance of evaluating information on the web.
- Explore what an internet service provider does and how it works in your school.
- Use a web browser and a search engine on the internet and evaluate information on the World Wide Web.
- Students could investigate the functions of a home page is, URL, hyperlink, favourites/bookmarks, browser history, web page, cookies, search engines
- Explore the functions of a search engine by using key words, exact phrase and advanced search options in order to print a web page; download a file and web page.
- Investigate social networking web sites, internet forums, chat rooms, online computer games, and blogs and discuss the risks associated with online interactions including issues such as cyber-bullying and the digital age of consent.

- Explain what phishing is and show examples.
- Get the students to set up an email address to create, send, and receive email and discuss the security risks involved.
- Students could explore terms such as: address book, inbox folder, sent items, new message, mail address, address field, send and reply, forward, email account, email attachment, virus and the security risks associated with opening email attachments.
- Investigate email etiquette in the use of cc and bcc.
- Develop awareness of malware from various sources including on mobile devices.
- Students could record and understand a glossary of key terms

Key Assignments

1. Use word processing software to create, store, edit and print a range of documents for specific purposes.
2. Ethically research a topic online for another module and produce a short report on it which included formatted graphics and text and email it to a named recipient.

Module 2: Introduction to other software packages

Purpose

This module has been designed for students with no formal or previous experience in Information and Communication Technology. It will provide an introduction to a range of practical skills and underpinning knowledge that will enable students to use computers and the associated technology confidently in their everyday lives.

Aims

This module aims to

- provide students with the opportunity to use common computer application packages
- familiarise students with the basics of spreadsheets and spreadsheet software
- familiarise students with the basics of computer graphics and graphics software.

Units

Unit 1: Introduction to spreadsheets

Unit 2: Introduction to the graphical presentation of data

Unit 1: Spreadsheets

Learning Outcomes

The student will be able to:

1. Identify suitable uses for spreadsheets.
2. Create a spreadsheet and enter numeric and character data, apply formulas while understanding their purpose to generate results, format cells and generate a chart and print it.
3. Create and understand logical formulas using standard functions.

Teacher Guidelines

The following provides a suggested selection of activities to fulfil the requirements of the learning outcomes:

- Using relevant contextual tasks students could work with spreadsheets and save them in different file formats.
- Explore how to use help function.
- Students should explore entering data into cells and perform basic calculations.
- Students can investigate how to select, sort and copy, move and delete data, edit and manipulate rows and columns in a worksheet, copy, move, delete, and rename worksheets.
- Using inputted data or a data source students can explore the functions of spreadsheets to communicate information through charts, graphs and tables.
- Using groups or pairs students can check and correct spreadsheet content before printing.
- Students could record and understand a glossary of key terms.

Unit 2: Introduction to the graphical presentation of data

Learning Outcomes

The student will be able to:

1. Use presentation application software to create an effective presentation and promotional materials.
2. Investigate image editing software.
3. Demonstrate an ability to edit, enhance and present a variety of information graphically.

Teacher guidelines

The following provides a suggested selection of activities to fulfil the requirements of the learning outcomes:

- Depending on the applications available, students can work with various presentation software applications and save them in different file formats.
- Choose online and inbuilt assistance such as the Help function, within the application to enhance presentation.
- Compare and contrast different presentation views and discuss when to use them.
- Explore the use of different slide layouts and designs. In this exploration, students can create and format charts, insert and edit pictures and images and apply animation and transition effects.
- Explore image editing. Free software such as GIMP, Paint.net or PhotoScape may be a starting point or if resources allow, Photoshop or other Adobe software may be used.
- Utilise software to enhance presentation of information. In groups or pairs discuss the merits of different presentation techniques for aiding clarity of communication.
- Graphically present information in a variety of formats.

Key Assignments

1. Select your best spreadsheet that demonstrates your use of formulas to perform calculations for a task you are involved in.
2. Select charts that demonstrate your use of bar charts or pie charts and save or print the results in graphic format and interpret these results.
3. Create a promotional document for display that effectively communicates information using a combination of graphics, text and images.