Your guide to Pearson Edexcel International Advanced Level (IAL) Information Technology

First teaching
September 2018

Welcome

Pearson Edexcel International Advanced Level (IAL) qualifications have been designed with the global learner in mind. They differ from A levels in that they have a flexible, modular structure, but maintain the rigorous standards of all Pearson Edexcel qualifications and are comparable to the UK A level, as confirmed by NARIC*.

Developed in consultation with the international school community, including a large number of teachers and university lecturers, these globally recognised qualifications open doors to universities worldwide, giving students the necessary skills to support progression to higher and further study.

Available in 21 popular subjects and designed to be engaging for international learners, they offer progression from International GCSEs to equip students with the knowledge and skills they need for a successful future. In 2018 we launched 8 updated subjects – Biology, Chemistry, Physics, Business, Economics, Mathematics, Further Mathematics and Pure Mathematics and also a brand new Information Technology qualification, which our schools started teaching in September 2018.

IAL qualifications are not available in the UK, the Channel Islands, the Isle of Man or in British Armed Forces schools overseas.

For further information, updates and support, visit **qualifications.pearson.com/IAL**

> **It's been my dream to attend a world-renowned university. Pearson Edexcel IALs have given me a solid academic foundation for further studies.**

Fei Xue, studying Computer Science,
University College London

*UK NARIC is the designated United Kingdom National Agency for the recognition and comparison of international qualifications and skills. It performs this official function on behalf of the UK Government.

Illustration by Lauren Rolwing

Why choose Pearson Edexcel IALs?

100% externally assessed
Learners can resit individual unit examinations.

Flexible and modular structure

The flexible modular approach takes a synoptic approach to assessment, which means learners are examined on their learning from each unit and are also able to demonstrate their knowledge and understanding across the whole subject.

Unlike a linear structure, where assessment is taken at the end of a two year course, the results from each module provide formal feedback throughout the course. This means learners can quickly grasp the standard required to reach the level they are aiming for. This understanding motivates students to improve, and builds a sense of ownership through bite-size, short-term goals.

Multiple examination opportunities

Examinations are available for many subjects in January, June and October, with all subjects offering at least two assessment opportunities as standard*. As exams are spread throughout the course, there are less high stakes assessments, enabling learners to focus their revision appropriately. Learners can resit individual unit examinations.

Accessible examination papers

At Pearson Edexcel, we develop our examination papers over a two-year period. The papers go through a rigorous world class assessment design process, which ensures that the content is relevant for international learners, and there is a clear and consistent relationship between command words, marks and skills. With logical progression of difficulty throughout and consistency in template and design, our question papers are clear and provide suitable challenge and support for students of all ability ranges.

IAS results contribute to IAL grade

International AS qualifications can be taken separately as a stand alone qualification, or used as a stage on the way to completing an International Advanced Level qualification. This provides international schools and learners with greater choice and flexibility to meet their needs and aspirations.

Recognised by universities worldwide

Fully comparable to UK reformed GCE A levels, as confirmed by NARIC, Pearson Edexcel IALs provide learners with access to the world's top universities and prestigious employment opportunities. They are recognised by leading universities across the world, including Oxford, Cambridge, Columbia, Yale, MIT, Caltech, Hong Kong / China University of Science and Technology and the National University of Singapore.

Internationally relevant content

Pearson Edexcel IAL qualifications and accompanying published resources contain international content where possible, such as topic themes, examples, case studies and photos, making content more relevant and engaging for all learners. Language is also reviewed by a specialist to ensure materials are written with EAL learners in mind, in a clear and accessible style.

With the exception of IAL Information Technology which offers June examination only.

Pearson Edexcel IAL in Information Technology

✏ 100% externally assessed	▤ Exams in June

Pearson Edexcel IAL IT is a modular qualification, designed to be studied over two years, with the option of a one-year IAS level course. Results of the IAS qualification can contribute to the overall IAL grade.
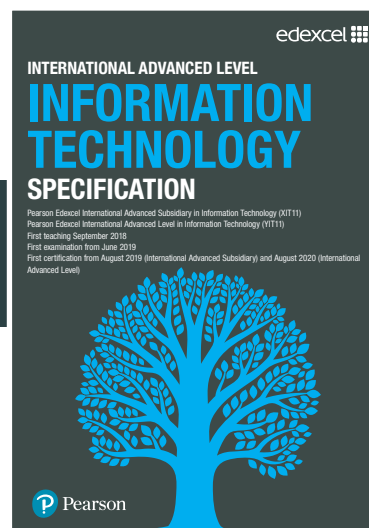
Students will:

- engage with web and database design in a practical, externally-assessed examination. This allows students to apply in a practical way the knowledge and understanding they gain in the classroom
- discover how to plan and implement an IT project and learn about key areas such as emerging technologies, the online environment and systems analysis and design.

The aims and objectives of this qualification are to enable students to develop:

- essential knowledge and understanding of different areas of the subject and how they relate to each other
- competence and confidence in developing practical skills, such as developing coding for the web and relational databases
- their interest in and enthusiasm for the subject, including developing an interest in further study and careers associated with the subject.

For further information and to download the specification, visit **qualifications.pearson.com/ialinfotech2018**

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INTERNATIONAL ADVANCED LEVEL

INFORMATION TECHNOLOGY

SPECIFICATION

Pearson Edexcel International Advanced Subsidiary in Information Technology (XIT11)
Pearson Edexcel International Advanced Level in Information Technology (YIT11)
First teaching September 2018
First examination from June 2019
First certification from August 2019 (International Advanced Subsidiary) and August 2020 (International Advanced Level)

Pearson

IAS in Information Technology: Content & Assessment Overviews

The Pearson Edexcel IAS in Information Technology consists of two externally-examined units.

The IAS is the first half of the IAL qualification and consists of two IAS units: Unit 1 and Unit 2. This qualification may be awarded as a discrete qualification or may contribute 50 per cent to the International Advanced Level qualification.

IAS: Unit 1		
Unit code: WIT11/01	50% of the total IAS	25% of the total IAL
Written examination: 2 hours	80 marks	Availability: June

Content overview	Assessment overview
Students must study **all** of the following topics: ● Topic 1: Hardware and software ● Topic 2: Networks ● Topic 3: The online environment ● Topic 4: IT systems ● Topic 5: Data and databases ● Topic 6: Wider issues.	● Students are assessed through a 2-hour written examination, set and marked by Pearson. ● Students must answer all questions. ● The examination paper may include multiple-choice, short-open, open-response and extended-writing questions. ● The examination assesses all assessment objectives.

IAS: Unit 2		
Unit code: WIT12/01	50% of the total IAS	25% of the total IAL
Written examination: 3 hours	80 marks	Availability: June

Content overview	Assessment overview
Students must study **all** of the following topics: ● Topic 7: Understanding the functionality of HTML ● Topic 8: Understanding the functionality of CSS ● Topic 9: Understanding the functions of Javascript ● Topic 10: Designing web pages ● Topic 11: The semantic web.	● Students are assessed through a 3-hour examination, including practical and theoretical questions, set and marked by Pearson. ● Each student will need to access a computer during the examination. ● Students must answer all questions. ● The examination paper may include short-open, open-response and extended-writing questions. Data files will be provided for some questions. Some responses will be written, others will involve the submission of files. ● The examination assesses all assessment objectives.

IA2 in Information Technology: Content & Assessment Overviews

The Pearson Edexcel IAL in Information Technology consists of four externally-examined units.

The International Advanced Level consists of the two IAS units (Unit 1 and Unit 2) plus two IA2 units: Units 3 and 4. Students wishing to take the International Advanced Level must, therefore, complete all four units.

IA2: Unit 3			
Unit code: WIT13/01		50% of the total IAS	25% of the total IAL
Written examination: 2 hours		80 marks	Availability: June

Content overview	Assessment overview
Students must study **all** of the following topics: ● Topic 12: Manipulating data ● Topic 13: Enabling technologies ● Topic 14: Using IT systems in organisations ● Topic 15: Systems development ● Topic 16: Emerging technologies.	● Students are assessed through a 2-hour written examination, set and marked by Pearson. ● Students must answer all questions. ● The examination paper may include short-open, open-response and extended-writing questions. ● The examination assesses all assessment objectives.

IA2: Unit 4			
Unit code: WIT14/01		50% of the total IAS	25% of the total IAL
Written examination: 3 hours		80 marks	Availability: June

Content overview	Assessment overview
Students must study **all** of the following topics: ● Topic 17: Use of features of database solutions ● Topic 18: Relational database concepts ● Topic 19: Database solutions.	● Students are assessed through a 3-hour examination, including practical and theoretical questions, set and marked by Pearson. ● Each student will need to access a computer during the examination. ● Students must answer all questions. ● The examination paper may include short-open, open-response and extended-writing questions. ● The examination assesses all assessment objectives.

Throughout the course of the IAL, students will:
● demonstrate knowledge and understanding of the concepts of information technology
● apply knowledge and understanding of the concepts of information technology
● analyse and evaluate information technology problems
● use analysis and evaluation to design solutions.

Developing transferable skills valued by universities and employers

In recent years, universities and employers have highlighted the need for students and graduates to develop a range of transferable skills, often referred to as 'soft skills', to enable them to better meet the demands of undergraduate study and the world of work.

In fact, universities and employers consider transferable skills to be the largest skills gap overall.

1 in 6
employers have difficulty finding candidates with the skills they require[1]

54%
of companies say that skills shortages impact their ability to serve their customers[2]

1 in 3
skills in a job posting is a "soft skill"[1]

87%
of university professors do not think students have the research skills needed for degree-level study[3]

Pearson Edexcel International Advanced Levels (IALs) equip students with these embedded transferable skills sought after by universities and employers. They develop core competencies, such as problem-solving, critical thinking and verbal reasoning. Transferable skills are signposted in our IAL qualifications and published teaching and learning resource so students know the skills they are developing throughout their studies.

Prepare your learners for more than just a grade

We've provided **skills mapping and transferable skills subject definitions** documents for your subject area, so you can easily identify what skills can be developed in your day to day teaching. Find out more online by visiting your subject page and searching under the *Teaching and Learning materials* tab **qualifications.pearson.com/IAL**

[1] *Employability - Personal & Social Capability Framework report from Pearson, 2016.*
[2] *Employability report from PSB for Pearson, 2016.*
[3] *Bridging the Gap: Understanding the Differing Research Expectations of First-Year Students and Professors, Meg Raven, Mount Saint Vincent University, 2016.*

Supporting you at every stage

We provide an unparalleled level of support services, tools, resources and training alongside qualifications, making teachers and students lives easier at every stage.

Your free subject support

Subject Advisors

Providing fast, reliable, expert help on a specific subject area of your choice. We aim to answer all emailed questions within 48 hours and resolve 90% of issues phoned in on the first call.

Contact **support.pearson.com/uk/s/qualification-contactus**

Pearson International Schools Community

Connect with other educators around the world, share ideas and resources and stay up to date with the latest subject developments by joining our international schools community at **community.pearsoninternationalschools.com**

At a glance: support for you at every stage			
FREE resources and support	**Planning and teaching**	**Exam preparation and assessment**	**Results support**
Getting started guide	✓		
Schemes of Work	✓		
Student Guide	✓		
Specification	✓		
Suggested teaching resources	✓		
Training events (face-to-face, online & downloadable content)	✓	✓	
Subject advisor support	✓	✓	✓
Ask the expert	✓	✓	✓
Community forums	✓	✓	✓
Sample assessment materials	✓	✓	
Examiner reports		✓	✓
Exemplar marked responses		✓	
Past papers		✓	
examWizard		✓	
Mark schemes		✓	
ResultsPlus mock exam analysis		✓	
ResultsPlus		✓	✓
FREE Access to Scripts service (ATS)*			✓
Additional paid for resources			
Online Teacher Resource Pack	✓	✓	

Available for any exam paper marked online, e.g. Unit 1 and Unit 3. Visit our website for more information on ATS.

Offering more advanced support services and tools

Our technology capability also allows us to provide the following unique services and tools to teachers and students:

ResultsPlus provides detailed information on exam performance and a platform to view and compare student results – as individuals or as groups – across the world. It helps with planning improvements in teaching and learning. ResultsPlus Direct is a free online service that gives students a detailed breakdown and comparison of their performance in Pearson Edexcel exams, globally, to help them identify areas of improvement.

examWizard is our free exam preparation tool containing a bank of past Pearson Edexcel exam questions, mark schemes and examiners' reports for a range of subjects. It saves you time by enabling you to create your own mock exams, topic tests, homework or revision activities in minutes and links directly to associated examiner reports and mark schemes!

FREE Access to Scripts Service (ATS) is an online service which allows access to view electronically marked exam papers, free of charge, providing enhanced transparency and support for teachers to evaluate a student's performance on particular questions in relation to what they have been taught.

Awarding reliability. We use ePEN, our unique, image-based marking system ensuring real time monitoring, quality control and reporting to ensure the highest quality marking and provision of data for tools such as ResultsPlus. Pearson Edexcel exam marking processes have been proven to produce the most reliable results. This demonstrates that our qualifications maintain the highest standards and can be relied upon to deliver to expectation.

> **Because of ResultsPlus, students can learn about their mistakes and rectify.**
>
> Kanagambigai, Chief Counsellor, Chemistry Lecturer, A levels Department, HELP Academy, Malaysia commenting on the ResultsPlus mocks service.
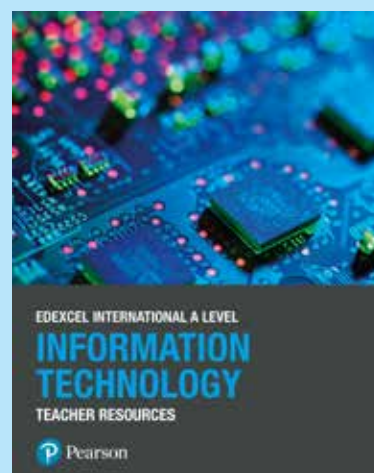
Published resources

The new online published teacher resources are designed to support you teach Information Technology in an international context and are written to cover all aspects of the latest specification, so you can be confident that you are providing your students with the best chance of succeeding.

Our **Online Information Technology Teacher Resource Pack** supports the Pearson Edexcel International Advanced Level (IAL) in IT, for first teaching from September 2018*.

This curriculum-matched, up-to-date teacher resource is designed to save you time, enabling you to deliver a high-quality experience to your students, ensuring the best possible learner outcomes.

- Available through a two-year subscription.
- Lesson plans.
- Worksheets.
- Two end-of-unit summative tests.
- A slide deck of model answers with 'dos and don'ts' and common errors.
- Exam-style practice and mark scheme.

Title	ISBN
Pearson Edexcel International AS/A Level Information Technology Teacher Resource Pack	9781292255255

INTERNATIONAL A LEVELS

Information Technology   Lesson Plan   ℗ Pearson

Data and Databases

Specification links:
5: 5.1.1 to **5.3.2**

Resources:
- Large quantity of unorganised data
- Example databases with several tables
- Worksheet 'Topic 5 worksheet'
- Database for students to perform SQL queries on

Learning objectives:
- Understand the purpose of a database
- Understand the purpose, benefits and key features of a relational database
- Understand the purpose of SQL
- Know how to use SQL and understand a range of SQL commands

Success criteria:
Students should be able to:
- Explain the benefits of using a database to store data
- Describe the structure, and key elements, of a relational database
- Identify appropriate relationships for a scenario
- Create SQL queries
- Create SQL scripts to create and manipulate tables

Possible misconceptions and barriers:
- Students need to be careful with spellings when writing SQL because it is unlikely to report where errors are, queries will just not run

Starter – what is a database
Give students a paper copy with a lot of data on it, in a jumbled, unstructured, unorganised form. Ask students to find several pieces of information from the data e.g. how many people have red hair.

Discussion – Starter
Ask students for their answers and then any problems they encountered.
...dents to identify what could make it easier e.g. structure and organisation.
...ce a database as being this structure and organisation.

...y – Relational Database
...udents an example of a database with multiple tables. This could be paper based, ...readsheet or database. Ask students to find out information as in the starter.
... the findings – was it easier than before?
...tudents the data all in one table i.e. with repeated data, and ask them why the ...e tables is better. Introduce this as a relational database.

...stration – Relational Database Structure
...tudents an example table and describe the key concepts i.e. primary keys, ...etc. Show students two tables together and show how the records relate across

Sample page from Pearson Edexcel International AS/A Level IT Teacher Resource Pack

Information Technology
International Advanced Level
Unit 4

Giada is creating a game. She wants to store data about the worlds in the game and the player's character(s) in a relational database.

A user can create their own characters and give each one a name that must be unique in the game. They choose a type for their character from: Fairy, Goblin, Elf, Wizard, Witch and Sprite. These are the only options. The date the character was created is stored. Each character has a level, starting a 1, and an amount of money. If a character is currently alive then it is Active, when it dies it is no longer Active.

The game has several worlds that the characters can visit. Each world has a unique name and a description.

Characters experience key events that will be stored as a history of their progress. This includes the world where it took place, the date and type of event (either Level up, Reward, Death or Meeting).

The database, GAME DATABASE and the spreadsheets ITEMS and CHARACTER ITEMS are provided in your examination area. Study these files carefully.

You must have:

The files CHARACTER ITEMS.xlsx, GAME DATABASE.accdb and ITEMS.xlsx

1   (a) The Character table needs to be improved.

Set up a validation rule to limit the level to be a whole number between 1 and 100 (inclusive).

(3)

(b) Create a data entry form for the **Character** table that will allow Willow to view the current characters and add a new character to the game.

The form must:

- allow a user to move through each character in turn
- provide a button to enter a new character and create an empty form
- allow the user to select a valid Type for the new character
- set the date of origin for a new character to today's date by default
- provide a button to save the entered data to the table

Screen-print your form in **Form** view.

(5)

*Sample page from Pearson Edexcel International
AS/A Level IT Teacher Resource Pack*

For further information on all of our print and digital resources for Pearson Edexcel International Advanced Level qualifications, visit **www.pearsonglobalschools.com/IAL**

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About Pearson Edexcel

At the core of everything we do at Pearson is the desire to make a measurable impact on improving people's lives through learning. From primary school to secondary school, through to professional certification; our qualifications help educate millions of people worldwide.

Foundations for success

Pearson Edexcel International Advanced Level (IAL) is part of the iProgress family for ages 5 to 19, which also includes iPrimary, iLowerSecondary and International GCSE (IG). We offer more than just a qualification, with professional development training that keeps teachers up-to-date with the latest educational practices, support materials that make planning and teaching lessons easier, and student textbooks and online resources, so you'll have more time to focus on the development of your students' progress.

Progress to university

Developed by education specialists specifically for international learners, Pearson Edexcel IAL qualifications are recognised by leading universities across the world, including Oxford, Cambridge, Columbia, Yale, MIT, Caltech, Hong Kong / China University of Science and Technology and the National University of Singapore.

Find out more

To find out more about our Pearson Edexcel International A Level qualifications and to sign up to our monthly newsletter, visit our website, **qualifications.pearson.com/IAL**

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