Cambridge IGCSE Information and Communication Technology (0417) Syllabus Breakdown & Weekly Lesson Plan

Assessment Structure :

Paper	Duration	Marks	Weighting	Focus Areas
Paper 1	2 hours	100	**40%**	Theory (Sections 1-21) - AO1 & AO3
Paper 2	2.5 hours	80	**30%**	Document Production, Data Manipulation, Presentations (Practical - AO2)
Paper 3	2.5 hours	80	**30%**	Data Analysis, Website Authoring (Practical - AO2)

Assessment Objectives :

- **AO1 Knowledge & Understanding**: 32% overall (80% of Paper 1)

- **AO2 Application & Skills**: 60% overall (100% of Papers 2 & 3)

- **AO3 Analysis & Evaluation**: 8% overall (20% of Paper 1)

Topic Weightings & Time Allocation

Topic Area	Sections	Weighting	Weeks Allocated
Computer Systems & Hardware	1-3	15-20%	2.5 weeks
Networks, Effects & Applications	4-6	15-20%	2.5 weeks
Systems Life Cycle, Safety & Audience	7-9	10-12%	1.5 weeks
Communication & File Management	10-11	5-8%	1 week
Document Production Skills	12-17	20-25%	3.5 weeks
Data Manipulation & Presentations	18-19	15-18%	2.5 weeks
Data Analysis & Spreadsheets	20	10-12%	1.5 weeks
Website Authoring	21	10-12%	1.5 weeks
Revision & Mock Exams	-	-	2 weeks

Detailed 16-Week Lesson Plan

WEEK 1-2: COMPUTER SYSTEMS & HARDWARE (15-20% weight)

Week 1: Types & Components of Computer Systems (Section 1)

- Day 1: Hardware vs software, system vs application software, types of computers (desktop, laptop, tablet, server)

- Day 2: Computer components (CPU, RAM, ROM, motherboard, input/output devices), functions of each

- Day 3: Storage devices (HDD, SSD, optical, USB, cloud), capacity, speed, portability comparisons

- Day 4: Past paper practice: System component identification and comparison questions (Paper 1)

- Day 5: **Practical**: Disassemble/reassemble computer components (virtual or physical)

- Day 6: Past paper review: Common component function errors

Week 2: Input/Output Devices & Storage Media (Sections 2-3)

- Day 1: Input devices (keyboard, mouse, scanner, sensors, microphones, cameras), suitability for tasks

- Day 2: Output devices (monitor, printer, speakers, actuators), resolution, speed, quality factors

- Day 3: Storage media - magnetic, optical, solid-state, comparison of capacity, speed, durability, cost

- Day 4: Past paper practice: Device selection for specific scenarios (Paper 1)

- Day 5: **Practical**: Evaluate different storage media for given business scenarios

- Day 6: Past paper review: Device suitability justification techniques

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WEEK 3-4: NETWORKS & ICT APPLICATIONS (15-20% weight)

Week 3: Networks & Effects of Using Them (Section 4)

- Day 1: Network types (LAN, WAN, WLAN), topologies (star, ring, bus, mesh), advantages/disadvantages

- Day 2: Network hardware (router, switch, hub, NIC, server), protocols (TCP/IP, HTTP, FTP)

- Day 3: Network security (firewalls, encryption, passwords, access rights), cloud computing

- Day 4: Past paper practice: Network design and security questions (Paper 1)

- Day 5: **Practical**: Design a network topology for a school/small business

- Day 6: Past paper review: Network topology selection errors

Week 4: Effects of Using IT & ICT Applications (Sections 5-6)

- Day 1: Social, economic, environmental effects of ICT (automation, teleworking, e-commerce, digital divide)

- Day 2: Health & safety (RSI, eye strain, ergonomics), environmental issues (e-waste, recycling)

- Day 3: ICT applications - education, healthcare, business, government, entertainment, communication

- Day 4: Past paper practice: ICT impact evaluation questions (Paper 1)

- Day 5: **Practical**: Research case studies on ICT in healthcare/business

- Day 6: Past paper review: Balanced argument structure (advantages vs disadvantages)

WEEK 5-6: SYSTEMS LIFE CYCLE, SAFETY & AUDIENCE (10-12% weight)

Week 5: Systems Life Cycle (Section 7)

- Day 1: Analysis - identifying problem, data collection, inputs/outputs, user requirements

- Day 2: Design - screen designs, validation, file structures, hardware/software selection

- Day 3: Development, testing (alpha/beta), implementation (direct, parallel, phased, pilot)

- Day 4: Documentation (user, technical), evaluation, maintenance (corrective, adaptive, perfective)

- Day 5: Past paper practice: Systems life cycle scenario questions (Paper 1)

- Day 6: **Practical**: Complete a mini project following the full systems life cycle

Week 6: Safety, Security & Audience (Sections 8-9)

- Day 1: Safety - physical (cables, overheating), electrical, health (RSI, eye strain)

- Day 2: Security - viruses, hacking, phishing, identity theft, prevention methods (firewalls, encryption)

- Day 3: Audience analysis - identifying target audience, suitable ICT solutions for different audiences

- Day 4: Past paper practice: Security threat identification and prevention strategies

- Day 5: **Practical**: Create a security policy document for an organization

- Day 6: Past paper review: Audience suitability justification

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WEEK 7: COMMUNICATION & FILE MANAGEMENT (5-8% weight)

Week 7: Communication Methods & File Management (Sections 10-11)

- Day 1: Communication methods - email, instant messaging, video conferencing, blogs, social media, suitability

- Day 2: Digital communication advantages/disadvantages, netiquette, online safety

- Day 3: File management - folder structures, naming conventions, version control, backing up, cloud storage

- Day 4: Past paper practice: Communication method selection and file management scenarios

- Day 5: **Practical**: Organize project files with proper naming and folder structure

- Day 6: Past paper review: Backup strategy evaluation

WEEK 8-10: DOCUMENT PRODUCTION SKILLS (20-25% weight)

Week 8: Images, Layout & Styles (Sections 12-14)

- Day 1: Images - formats (JPEG, PNG, GIF, SVG), resolution, file size, compression, editing, copyright

- Day 2: Layout - page orientation, margins, columns, white space, alignment, consistency

- Day 3: Styles - fonts (serif/sans-serif), font size, color, bold/italic/underline, headings, style sheets

- Day 4: Past paper practice: Design principles and image selection (Paper 1)

- Day 5: **Practical**: Create a newsletter with appropriate layout and styles

- Day 6: Past paper review: Design consistency errors

Week 9: Proofing & Graphs/Charts (Sections 15-16)

- Day 1: Proofing - spell check, grammar check, consistency, accuracy, readability

- Day 2: Graphs and charts - selecting appropriate types, labels, titles, legends, axes, data sources

- Day 3: Document production skills integration

- Day 4: Past paper practice: Graph selection and proofreading exercises

- Day 5: **Practical**: Create report with integrated charts and proofing

- Day 6: Past paper review: Graph interpretation mistakes

Week 10: Document Production Mastery (Section 17)

- Day 1: **Paper 2 Practical Test**: Document production techniques in word processing software

- Day 2: Mail merge, tables of contents, indexes, references, headers/footers, page numbering

- Day 3: Advanced formatting - sections, columns, watermarks, footnotes/endnotes

- Day 4: Past paper practice: Full Paper 2 document production tasks

- Day 5: **Practical**: Complex document with mail merge and table of contents

- Day 6: Past paper review: Mail merge field errors

WEEK 11-12: DATA MANIPULATION (15-18% weight)

Week 11: Database Concepts & Structure (Section 18)

- Day 1: Database structure - tables, records, fields, data types, primary keys, relationships

- Day 2: Data entry, validation (range checks, format checks, presence checks), verification

- Day 3: Queries - creating, sorting, filtering, AND/OR criteria, calculated fields

- Day 4: Past paper practice: Database design and validation questions (Paper 1)

- Day 5: **Practical**: Design and create a relational database with queries

- Day 6: Past paper review: Validation rule design errors

Week 12: Data Manipulation & Reports (Section 18 continued)

- Day 1: Forms - creating, modifying, data entry forms, user interface design

- Day 2: Reports - generating, formatting, grouping, summarizing, sorting

- Day 3: Data export/import, backup strategies, data security

- Day 4: Past paper practice: Form and report design scenarios

- Day 5: **Practical**: Create forms and reports for a business scenario

- Day 6: Past paper review: Report grouping mistakes

WEEK 13-14: PRESENTATIONS & DATA ANALYSIS (15-18% weight)

Week 13: Presentations (Section 19)

- Day 1: Presentation software features - slides, layouts, master slides, themes

- Day 2: Visual elements - images, charts, SmartArt, animations, transitions, hyperlinks

- Day 3: Audience considerations, timing, speaker notes, handouts, consistency

- Day 4: Past paper practice: Presentation design and audience analysis (Paper 2)

- Day 5: **Practical**: Create a professional presentation with animations and hyperlinks

- Day 6: Past paper review: Presentation design overuse errors

Week 14: Data Analysis (Section 20)

- Day 1: **Paper 3 Practical Test**: Spreadsheet features - formatting, formulas, functions (SUM, IF, VLOOKUP)

- Day 2: Absolute/relative cell referencing, conditional formatting, data validation

- Day 3: Charts and graphs from spreadsheet data, pivot tables, what-if analysis

- Day 4: Past paper practice: Full Paper 3 data analysis tasks

- Day 5: **Practical**: Complex spreadsheet with advanced functions and pivot tables

- Day 6: Past paper review: Absolute vs relative reference errors

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WEEK 15: WEBSITE AUTHORING (10-12% weight)

Week 15: Website Authoring (Section 21)

- Day 1: HTML basics - structure, tags (headings, paragraphs, links, images), CSS styling

- Day 2: Website planning - purpose, audience, structure, navigation, consistency

- Day 3: Tables, forms, multimedia integration, accessibility considerations

- Day 4: Testing and evaluation - functionality, usability, browser compatibility

- Day 5: **Practical**: Create a multi-page website with CSS styling and navigation

- Day 6: Past paper practice: Website evaluation criteria

WEEK 16: REVISION & MOCK EXAMS

Week 16: Intensive Past Paper Practice & Final Preparation

- Day 1: **Full Paper 1 mock** (Theory, 2h) + detailed marking and review

- Day 2: **Full Paper 2 mock** (Document Production, 2.5h) + skills review

- Day 3: **Full Paper 3 mock** (Data Analysis/Website, 2.5h) + skills review

- Day 4: Error analysis: Identify weak practical areas from mocks

- Day 5: Targeted revision: Challenging theory topics and practical skills

- Day 6: Command words workshop, exam technique, time management strategies

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Past Paper Integration Strategy

1. **Topic-wise practice**: After each sub-topic, assign 2-3 past paper theory questions (Paper 1)

2. **Practical skills**: Every week includes hands-on practice matching Paper 2/3 tasks

3. **Progressive difficulty**: Start with basic tasks, move to integrated projects

4. **Timed practice**: Practical papers are long - build stamina with timed sessions

5. **Cumulative testing**: Every 2 weeks, mixed questions covering all sections taught

Key Resources:

- **Syllabus**: Official 0417 syllabus for 2023-2025

- **Past papers**: Papers 1, 2, 3 from 2019-2024 series

- **Software**: MS Office (Word, Excel, Access, PowerPoint), web authoring tools (HTML/CSS)

- **Weighting factors**: Paper 1 has 1.4 weighting, Papers 2/3 have 1.2 weighting

Exam Tips:

- **Paper 1**: Focus on AO1 (knowledge) and AO3 (evaluation) - memorize key terms and practice evaluation questions

- **Paper 2**: Master document production, database manipulation, and presentations - practice integration of all three

- **Paper 3**: Excel in spreadsheets (formulas, functions, charts) and website authoring - focus on HTML/CSS coding

- **Time management**: Paper 2 and 3 are 2.5 hours - practice working at pace to complete all tasks

- **Common pitfalls**: Forgetting to proofread, inconsistent formatting, incorrect absolute/relative references, missing ALT tags on images