

## Outline scheme of learning

### Edexcel GCE in Applied ICT A2 - Unit 11: Using Spreadsheet Software

Topic	Learning activities/outcomes	Learning Objectives &/or Key question	Resources	Homework and Assignments	Syllabus extract(s)
1.	<p><b>Introduction:</b> unit specification</p> <ul style="list-style-type: none"> <li>Spotting errors</li> <li>Additional activity on SUM function errors (see Teacher's Notes)</li> <li>Discuss GIGO and possible consequences</li> <li>The need for design</li> </ul> <p><b>Spreadsheet applications</b></p> <ul style="list-style-type: none"> <li>Different contexts</li> <li>The scenario</li> <li>Other scenarios</li> <li>Investigate the additional spreadsheet files in the ActiveBook</li> </ul>	<p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>Identify potential errors in spreadsheets solutions</li> <li>Appreciate the need for good design</li> <li>Identify different uses of spreadsheets</li> <li>Understand the scenario</li> </ul>	<p>Chapter 11.1</p> <ul style="list-style-type: none"> <li>ActiveBook spreadsheet files</li> </ul> <p>Unit 11 Specification</p> <p>Spreadsheet software</p> <p>SUM error exercise in Teachers Notes</p>		<p>Unit 11: Introduction</p> <p>11.1 Spreadsheet applications</p>
2.	<p><b>Functional Specification</b></p> <ul style="list-style-type: none"> <li>Create the functional specification: Activity 1 and additional exercise (see Teacher's Notes)</li> <li>Take Screenshots: Activity 2</li> <li>Create multiple worksheets: Activity 2</li> <li>Create 'dummy' representative data: Activity 3 (RAND, RANDBETWEEN and INT functions)</li> <li>Try additional exercises on simulations using the above functions</li> <li>Check that students have put version numbers and date on their specifications created by these activities</li> </ul>	<p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>Identify the areas that should be covered by a functional specification</li> <li>Understand why the specification should be as accurate and detailed</li> <li>Use quick methods to create representative data and multiple worksheets</li> <li>Incorporate screenshots in documentation</li> </ul>	<p>Chapter 11.2</p> <ul style="list-style-type: none"> <li>ActiveBook spreadsheet files</li> </ul> <p>Excel's Analysis ToolPak Add-In for RANDBETWEEN function</p> <p>Word processing package</p> <p>Graphics Package</p>	<p>Set some simple simulation exercises using RAND function etc.</p> <p>Complete activities 1, 2 and 3</p>	<p>11.2 Functional Specification</p>
3.	<p><b>Design and prototyping</b></p> <ul style="list-style-type: none"> <li>Discuss Prototyping and need for keeping version numbers</li> <li>Discuss client feedback and HCI</li> <li>Discuss the design issues listed at the start of the design section</li> <li>A design document: Activity 1 (naming the parts)</li> <li>Create the input workbooks: Activity 2</li> <li>Avoid duplicates: Activity 3</li> <li>A design document: Activity 4 (drop-down lists)</li> <li>A design document: Activity 5 (data validation)</li> <li>A design document: Activity 6 (master workbook structure)</li> <li>Discuss archiving and future proofing</li> </ul>	<p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>Understand what is meant by prototyping</li> <li>Understand the importance of client feedback</li> <li>Understand more fully the need for good design</li> <li>Create professional looking design documentation</li> <li>Understand why future proofing is necessary</li> </ul>	<p>Chapter 11.3</p> <ul style="list-style-type: none"> <li>ActiveBook spreadsheet file</li> </ul> <p>Word processing package</p> <p>Spreadsheet software</p>	<p>Activities 1, 4, 5 and could be undertaken as homework</p> <p>Complete activities 1 to 6</p>	<p>11.3 Spreadsheet design</p> <p>11.5 Layout and presentation</p> <p>11.6 Data validation and entry</p> <p>11.7 Future proofing</p> <p>11.4 Processing (importing)</p>

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4.	<p><b>Construction and advanced techniques</b></p> <ul style="list-style-type: none"> <li>• Check students understanding of named ranges</li> <li>• Create drop-down lists: Activity 1</li> <li>• Create worksheets for master workbook : Activity 2</li> <li>• Create 'dummy' data: Activity 3</li> <li>• Link data to master workbook: Activity 3</li> <li>• Discuss how an earlier template solution would have helped</li> <li>• Add data validation: Activity 4</li> <li>• Use LOOKUP function: mileage exercise (see Teacher's Notes) and Activity 5</li> <li>• Output colour and messages: Activity 6</li> <li>• Output pivot tables – additional exercises in the ActiveBook and Activities 7 and 8</li> <li>• Undertake What-if-analysis: Goal-seeking: Activity 9</li> <li>• Output charts: Activities 10 and 11</li> <li>• Add security : Passwords and cell locking</li> <li>• Introduce more user interface features: Activities 12 and 13</li> <li>• Investigate additional techniques: ActiveBook additional advanced technique files</li> </ul>	<p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• Use named ranges</li> <li>• Process data</li> <li>• Validate data</li> <li>• Use appropriate output facilities</li> <li>• Secure data</li> <li>• Improve the user interface</li> <li>• Understand more complex processing techniques</li> </ul>	<p>Chapter 11.4</p> <ul style="list-style-type: none"> <li>• ActiveBook spreadsheet files</li> </ul> <p>LOOKUP function exercise in Teachers Notes</p> <p>Word processing package</p> <p>Spreadsheet software</p>	<p>Complete activities 1 to 13</p> <p>Additional exercises on LOOKUP</p> <p>Additional pivot table exercises</p> <p>Create a Solver exercise?</p> <p>Investigate additional techniques: ActiveBook additional advanced technique files</p>	<p>11.4 Processing (importing)</p> <p>11.6 Data entry and validation</p> <p>11.8 Presentation of results</p>
5.	<p><b>Testing and Documentation</b></p> <ul style="list-style-type: none"> <li>• Read document on testing, available in the ActiveBook</li> <li>• Provide student test logs to date and improve if necessary</li> <li>• Create a test table: Activity 1</li> <li>• Investigate existing non-computer user manuals</li> <li>• Identify and discuss good and bad points of these manuals</li> <li>• Identify the items to be included in a user and a technical guide.</li> <li>• Produce a draft user guide</li> <li>• Produce a draft technical guide</li> </ul>	<p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• Understand the need for test plans and test tables</li> <li>• Identify the good and poor features of user and technical manuals</li> <li>• Produce draft user and technical guides</li> </ul>	<p>Chapter 11.5</p> <ul style="list-style-type: none"> <li>• ActiveBook spreadsheet files</li> </ul> <p>Word processing package</p> <p>Spreadsheet software</p> <p>Non-computing user and technical manuals</p>	<p>Complete Activity 1</p> <p>Investigate existing non-computer manuals and identify good and bad points</p> <p>Produce a user guide</p> <p>Produce a technical guide</p>	<p>11.9 Testing</p> <p>11.10 Documentation</p>
6.	<p><b>Tackling the Unit 11 assessment</b></p> <ul style="list-style-type: none"> <li>• Students to evaluate each others work (via presentations?) in order to provide feedback</li> <li>• Students to evaluate their own work</li> <li>• Ensure that relevant documents have a section on future Proofing</li> <li>• Recap the main points to remember when undertaking the unit assessment</li> <li>• Discuss the unit assessment</li> </ul>	<p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• Evaluate spreadsheet models</li> <li>• Undertake the unit assessment in a professional manner</li> </ul>	<p>Chapter 11.6</p> <p>Word processing package</p> <p>Spreadsheet software</p>	<p>Produce presentation of work for classroom presentation</p> <p>Evaluate other students' work</p> <p>Evaluate own work</p>	<p>11.11 Evaluation</p> <p>11.7 Future Proofing</p>