ICT

Matthayom 1–3 (EP)

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I. Introduction

The Importance of Information and Communication Technology

Information and Communications Technologies (ICT) education is essentially our efforts to teach our students valuable knowledge and skills around computing and communications devices, software that operates them, applications that run on them and the systems that are built with them.

What are these things? How do they work? How do you use them productively? How are they deployed, assembled, managed and maintained to create productive systems? How they are used in specific business and industry settings? What are the underlying science and technologies behind them and how might those be developed to advance ICT fields? These are some of the questions we endeavor to answer throughout the ICT course.

ICT is complex and quickly changing, and it is confusing for many people. It is so pervasive in the modern world that everyone has some understanding of it, but those understandings are often wildly divergent.

In virtually all modern businesses and industries, and in modern society in general, ICT has key strategic roles. It is strategically important to develop our students into citizens and workers who can competently and efficiently operate and add value in these systems and environments.

Principles Underlying Andrew Biggs Mathematics Program

Andrew Biggs Academy Curriculum is based on the Thai Ministry of Education (The Basic Education Core Curriculum 2008). This curriculum recognizes the diversity that exists among students who study ICT within English Program. It is based on the belief that all students can learn ICT and deserve the opportunity to do so.

This curriculum is designed to help students build a solid foundation in ICT that will enable them to apply their knowledge and advance their learning successfully. Andrew Biggs Academy believes that students are learning most effectively when they are given the chance to investigate ideas and solve problems and then carefully guided to an understanding of the basic principles in ICT.

The Basic Education Core Curriculum aims to instill the following five key competencies among students: communication skills, thinking skills, problem-solving skills, life skills, and technological application skills.

Curriculum Overview

The Andrew Biggs Academy Curriculum, M1 – M3 (Grades 7 to 9) in ICT identifies the goals and objectives for each level and illustrates the knowledge and skills that students are expected to acquire, learn, demonstrate and apply in their class work, tests and in various activities to assess their achievements. The overall expectations describe the general knowledge and skills that students are expected to achieve at the end of each level. The specific expectations describe the detailed knowledge and skills that students are expected to demonstrate at the end of each chapter.

The program in Matthayom 1 to Matthayom 3 is specifically designed to ensure that students build a solid foundation in ICT. Overall and specific expectations in ICT is organized into an educational strand then further subdivided into learning areas according to the Basic Core Curriculum (B.E. 2551) from the Thai Ministry of Education.

The study of ICT is designed to facilitate students in gaining an understanding and acquiring technological skills and knowledge based on their highest level and enables students to acquire the skills and knowledge according to their utmost potential.

For common understanding and to establish clarity with regards to Andrew Biggs Curriculum, various codes have been used for Learning Standards and Grade Level Indicators. Below are the codes used for this curriculum:

OT3.1, GLI M1/1	
OT	Subject Area of Occupations and Tech.
3.1	Standard 1, Learning Area 1
GLI	Grade Level Indicators
M1	Year
1	Indicator Number

ICT
M1

II. A. The Core Curriculum for ICT, M1

Strands, Learning Standards, and Grade Level Indicators

Strand	Learning Standards		Grade Level Indicators (GLI)
3 Information and Communication Technology	**OT3.1**	Understanding, appreciation and efficient, effective and ethical application of information technology in searching for data, communicating, problem solving, working and livelihood.	1. Explain the principles of function and the roles and benefits of a computer. 2. Discuss the main characteristics and the affects of information technologies. 3. Process data so as to serve as information.

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Course Description: Information and Communication Technology M1, Semester 1

Microsoft Office (Word, PowerPoint and Excel)

Subject: : Information and Computer Technology	**Course Number:** COM 20241	**Level:** M1
Period: 32 hours per semester	**Academic Credit:** 1	**Semester:** 1st

The following course outline highlights the activities, terms to be learned and discussion questions displayed lesson-by-lesson as they relate to Microsoft Office. The course is presented live through demonstrations and walkthrough in which the students listen to/watch the instructor and follow the instructions. Students will learn new skills each week and practice their new skills by completing a small project / task. The tasks require the students to use their new skills, as well practicing old skills, while encouraging creativity.

Areas covered within the ICT syllabus – and included as learning areas of the Occupations and Technology Core Curriculum -- include the processing of information technologies; communication; the search for data; application of data and information; solution of problems or creation of work; values and effects of ICT, which are key components of the ICT Core Curriculum.

Grade Level Indicators (GLI):

OT3.1, GLI M1/1	OT3.1, GLI M1/2	OT3.1, GLI M1/3

Total up to 3 Indicators

Course Syllabus: Information and Communication Technology M1, Semester 1

Get Ahead 1, Introduction (5 Hours)

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
1	**MS Word Topic 1**	■ Understand what MS Word is used for ■ Understand the MS Office layout ■ Introduce print screen button ■ Introduce the ctrl+v keyboard shortcut to paste	**Present:** Open Word & Discuss Word Layout **Activity:** Take a screenshot of your favourite website and paste in to MS Word.	**Classroom work:** ■ Asking questions; monitoring; assessing projects, tasks and assignments, and other in-class projects **Assignments/ Homework:** ■ Examining homework **Test/Worksheet/Unit test:** ■ Worksheets, pop quizzes, chapter reviews, unit tests **Midterm and Final Exams**	**OT3.1, GLI M1/1** **OT3.1, GLI M1/2** **OT3.1, GLI M1/3**
2	**MS Word Topic 1**	■ Introduce inserting text boxes ■ Introduce inserting shapes to insert arrows ■ Practice taking screenshots and pasting ■ Reinforcing layout vocabulary	Project 1: Take a screenshot of MS Word, paste and label it		
3	**MS Word Topic 2**	■ Understand the use of styles for consistency ■ Understand the use of a documents header and footer ■ Learn the required header and footer information for every document created on this course	**Present:** MS Office Styles, headers and footer Activity: Add a heading, header and footer to screenshot document		
4	**MS Word Topic 2**	■ Practice including the required header and footer information for all documents created in this course	Project 2: Write about yourself, inc. use of title, heading, header & page number		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		■ Practice writing a document using predefined styles for titles, heading, sub headings and normal paragraphs ■ Introduce the Spelling and Grammar checker			
5	**MS Word Topic 3**	■ Understand how to select modify text to highlight important / keywords, change color, indent and align ■ Understand the role of lists presenting information ■ Understand the difference between bullet lists and numbered lists ■ Practice modifying text	**Present:** Paragraphs and fonts **Activity:** Write a sentence about yourself and change different words to have a different font style.		
6	**MS Word Topic 3**	■ Practice creating lists ■ Introduce changing page background color ■ Introduce setting borders	**Project 3:** Create a list of your top 10 movies / songs and a shopping list of things you want to buy next time you go to the supermarket.		
7	**MS Word Topic 4**	■ Understand how to insert objects into a word document ■ Understand the different types of object that word supports ■ Introduce inserting shape objects	**Present:** Inserting objects **Activity:** Draw a picture of your house / home using shapes.		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
8	**MS Word Topic 4**	■ Understand what a survey is ■ Practice inserting survey results into a table ■ Practice generating a chart to present survey results	Project 4: Survey class about favourites (student decides topic e.g. color, shape, sport etc.) and present findings using a table and chart in MS Word		
9	**MS Word Topic 4 (continued)**		Project 4 continued		
10	**MS PowerPoint Topic 1**	■ Understand what PowerPoint is used for ■ Emphasize that the layout is similar to MS Word ■ Practice creating, editing, rearranging and deleting slides ■ Practice saving a slideshow ■ Practice viewing the slideshow	**Present:** Open PowerPoint, discuss layout similar to MS Word, how to add new slides, edit slides and format text.		
11	**MS PP Topic 1**	■ Practice creating, editing, rearranging and deleting slides ■ Practice saving a slideshow ■ Practice viewing the slideshow ■ Refresh about Spelling and Grammar checker	Project 5: Create slideshow “About me”. Add headings and text		
12	**MS PP Topic 2**	■ Understand the use of themes to maintain consistent design throughout all slides ■ Introduce how to insert objects into PowerPoint	**Present:** Setting a theme and inserting objects		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
13	**MS PP Topic 2**	■ Practice setting a theme for a slideshow ■ Practice inserting images into slides	Project 5 (cont.): Set a theme and add images from Facebook / phone camera to “About Me” presentation.		
14	**MS PP Topic 3**	■ Understand slide transitions ■ Understand animating objects ■ Practice setting slide transitions and animating objects	**Present:** Slide transitions and custom animations Project 5 (cont.): Set transitions and animations to “About Me” presentation.		
15	**Midterm Test Review**		Midterm Test Review		
16	**Midterm Test**		Midterm Test		
17	**MS PP Topic 3**	■ Complete slideshows ■ Practice presentations	Project 5 (cont.): Complete “About Me” presentation.		
18	**Student Presentations**	■ Assess students ”About Me” presentations	Students present project 5		
19	**Student Presentations**	■ Assess students ”About Me” presentations	Students present project 5		
20	**Student Presentations**	■ Assess students ”About Me” presentations	Students present project 5		
21	**Week 11 MS Excel Topic 1**	■ Understand what Excel is used for ■ Emphasize that the layout is similar to MS Word and MS PowerPoint ■ Introduce spreadsheet tables ■ Understand cells, rows and columns	**Present:** Open Excel, discuss layout similar to Word and PowerPoint. **Activity:** Conduct a class survey, write results on the board and have students enter data into a spreadsheet		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
22	**MS Excel Topic 1**	■ Practice organizing data into rows and columns ■ Practice writing useful column / row headings ■ Practice inserting data into cells ■ Introduce charts	Project 6: Create your own survey, choose topic, ask a number of classmates and create a pie chart to present findings		
23	**MS Excel Topic 2**	■ Practice organizing data into rows and columns ■ Practice writing useful column / row headings ■ Practice inserting data into cells ■ Introduce charts	**Present:** Using charts to present data		
24	**MS Excel Topic 2**	■ Practice creating different types of graph ■ Understanding worksheets	**Activity:** Create 3 different types of table in separate worksheets and workout which type of chart works best to present that information		
25	**MS Excel Topic 3**	■ Understand the use of number styles to make your tables easier to read ■ Understand the use of table styles to give tables a specific look ■ Practice using different number styles	**Present:** Number format and table styles **Activity:** Write a row heading with each number format name, in the cell to the right of each heading write an example using the correct format		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
26	**MS Excel Topic 3**	■ Practice using number formats to display information correctly ■ Practice creating tables using	Project 7: Create an expense log of your pocket money and expenditure using correct number formats for each column		
27	**MS Excel Topic 4**	■ Understand what a formula is ■ Write formulas in the formula bar ■ Understand cell referencing ■ Understand mathematical operators (+-/*) to create basic formulas	**Present:** Writing formulas to process data		
28	**MS Excel Topic 4**	■ Practice writing formulas	Project 8: Complete expense log from project 7 using formulas to calculate balance on each row		
29	**Formula Functions**	■ Introduce some of Excels built in formula functions, sum(), round(), ceiling(), floor(), concatenate() ■ Write formula functions in the formula bar ■ Identify formula functions using the formulas tab and ribbon	**Present:** Formula functions		
30	**Midterm Review/Finish uncompleted work**		Spare time – for students to complete any unfinished work		
31	**Midterm Review**				
32	**Mid-term Exam**				

Course Description: Information and Communication Technology M1, Semester 2

Karel (programming language)

Subject: : Information and Computer Technology	**Course Number:** COM 20241	**Level:** M1
Period: 32 hours per semester	**Academic Credit:** 1	**Semester:** 2nd

The following course outline highlights the activities, terms to be learned and discussion questions displayed lesson-by-lesson, especially as the relate to the Karel programming language for students beginning their ICT studies. The course is presented online through http://codehs.com, which provides a complete introduction to computer science through videos and other interactive content, such as example programs to play/experiment with and activities where the students must write their own programs. Students will develop a basic understanding of the concepts of software development through repetition and practice. Due to the nature of the website each student is able to work at their own pace and to their own abilities. Stronger students who finish the course early will be directed to do extra modules on http://www.codecademy.com that builds on the skills learned through http://codehs.com, which frees the teacher's time to focus on helping the weaker students and unsure that no child is left behind.

Areas covered within the ICT syllabus – and included as learning areas of the Occupations and Technology Core Curriculum -- include the processing of information technologies; communication; the search for data; application of data and information; solution of problems or creation of work; values and effects of ICT, which are key components of the ICT Core Curriculum

Grade Level Indicators (GLI):

OT3.1, GLI M1/1 OT3.1, GLI M1/2 OT3.1, GLI M1/3

Total up to 3 Indicators

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Course Syllabus: Information and Communication Technology M1, Semester 2

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
1	**Introduction to Karel**	■ Sign up to codehs.com ■ Understand what programming is ■ Understand what a command is ■ Introduce Karel ■ Learn commands putBall() and move()	Introduction to Programming With Karel Quiz: Karel Commands	**Classroom work:** ■ Asking questions; monitoring; assessing projects, tasks and assignments, and other in-class projects **Assignments/ Homework:** ■ Examining homework **Test/Worksheet/Unit test:** ■ Worksheets, pop quizzes, chapter reviews, unit tests **Midterm and Final Exams**	**OT3.1, GLI M1/1** **OT3.1, GLI M1/2** **OT3.1, GLI M1/3**
2	**Working with Karel**	■ Experiment with demonstration code ■ Understand what a function is ■ Learn commands turnLeft() and takeBall() ■ Complete practice activities ■ Develop problem solving skills	Our First Karel Program Your First Karel Program Short Stack		
3		■ Learn how to write functions ■ Learn function syntax ■ Experiment with demonstration code	More Basic Karel Tennis Ball Square		
4		■ Practice writing commands ■ Practice writing functions ■ Develop problem solving skills	Make a Tower Pyramid of Karel		
5		■ Experiment with demonstration code ■ Practice writing commands ■ Practice writing functions	Karel Can't Turn Right Tower and Turn Right		
6		■ Understand what a bug is ■ Experiment with demonstration code	Slide Karel Fireman Karel		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		■ Practice writing debugging ■ Develop problem solving skills			
7		■ Experiment with demonstration code ■ Practice debugging ■ Practice writing functions	Functions in Karel Turn Around		
8		■ Practice writing Karel commands and functions ■ Develop problem solving skills	Pancakes Mario Karel		
9		■ Understand the role of the start function ■ Experiment with demonstration code ■ Practice using the start function	The Start Function Tower with Start Function		
10		■ Introduce the top down design methodology ■ Practice applying the methodology ■ Develop problem solving skills	Pancakes with Start		
10		■ Introduce the top down design methodology ■ Practice applying the methodology ■ Develop problem solving skills	Pancakes with Start		
11		■ Understand design decomposition ■ Experiment with demonstration code ■ Practice applying the design decomposition	Top Down Design and Decomposition in Karel Hurdle Karel		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
12		■ Practice applying the methodology ■ Develop problem solving skills	The Two Towers		
13		■ Understand the role of comments ■ Experiment with demonstration code ■ Practice writing comments	Commenting Your Code Hurdle Karel		
14		■ Reinforce the use of comments	The Two Towers + Comments		
15		■ Introduce SuperKarel (extra Karel commands) turnaround() and turnRight() ■ Understand that separate functions to define these new commands are not needed ■ Experiment with demonstration code	Super Karel Hurdle Karel (with SuperKarel)		
16			Midterm Test		
17		■ Practice writing SuperKarel commands	The Two Towers + SuperKarel		
18		■ Understand the role of loops for repetition ■ Understand that for loops are used when you know how many times you want to repeat a set of commands ■ Experiment with demonstration code	For Loops Repeated Move Put Down Tennis Balls Take 'em All		
19		■ Practice writing for loops ■ Develop problem solving skills	Dizzy Karel For Loop Square Lots of Hurdles		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
20		■ Introduce conditional if-statements ■ Understand true/ false ■ Understand that if-statements are used to only execute a set of commands if the condition is true ■ Experiment with demonstration code	If Statements		
21		■ Practice writing if-statements ■ Develop problem solving skills	Safe Take Ball Is There a Ball?		
22		■ Introduce else ■ Understand that else is used to execute a different set of commands if the condition is false ■ Experiment with demonstration code	If/Else Statements		
23		■ Understand the difference between using an if-statement and an else/if statement. ■ Practice writing conditional if-statements ■ Develop problem solving skills	One Ball in Each Spot Right Side Up		
24		■ Introduce while loops ■ Understand that while loops are used while specified condition is true and will repeat until the condition is changed to false	While Loops in Karel Move to Wall		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		■ Experiment with demonstration code			
25		■ Practice writing while loops ■ Develop problem solving skills	Follow The Yellow Ball Road Lay Row of Tennis Balls Big Tower		
26		■ Practice using control structures ■ Develop problem solving skills	Control Structures Example		
27		■ Practice using control structures ■ Develop problem solving skills	Cleanup Karel Random Hurdles		
28		■ Understand the purpose of testing ■ Develop debugging skills ■ Develop problem solving skills	More Karel Examples and Testing Quiz: Which Control Structure? Move Tennis Ball Stack Climbing Karel		
29		■ Understand why indenting code is important ■ Practice indenting unindented code	How to Indent Your Code Dance and Clean Karel		
30		■ Understand that having a good programming style helps other team members able to read and modify your code ■ Practice indenting unindented code Diagonal	Staircase Karel Exercises Badge		
31	**Final test Review**				
31	**Final Exam**				

ICT
M2

II. B. The Core Curriculum for ICT, M2

Strands, Learning Standards, and Grade Level Indicators

Strand	Learning Standards		Grade Level Indicators (GLI)
3 Information and Communication Technology	**OT3.1**	Understanding, appreciation and efficient, effective and ethical application of information technology in searching for data, communicating, problem solving, working and livelihood.	1. Explain the basic principles of communicating information and the computer networks. 2. Explain the principles and methods of problem solving through information technology processes. 3. Search for information and communicate through the computer networks morally and ethically. 4. Use software for work.

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Course Description: Information and Communication Technology M2, Semester 1

Adobe Photoshop CS6

Subject: : Information and Computer Technology	**Course Number:** COM 20242	**Level:** M2
Period: 32 hours per semester	**Academic Credit:** 1	**Semester:** 1st

The following course outline highlights the activities, projects and objectives displayed lesson-by-lesson, as they relate to Adobe Photoshop. The course is presented in two parts, the first part before mid-term exams and the second part after midterm exams. Part one is presented live through demonstrations and walkthroughs in which the students listen to/watch the instructor and follow the instructions. Students will learn new skills each week and practice their new skills by completing a small activities and projects. The projects require the students to use their new skills, as well practicing old skills, while encouraging creativity. Part two is self-guided learning which involves the students finding their own tutorials, following the instructions in English and familiarizing themselves with the basic Photoshop vocabulary learned in part one of the course.

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Grade Level Indicators (GLI):

OT3.1, GLI M3/1	OT3.1, GLI M3/2	OT3.1, GLI M3/3	OT3.1, GLI M3/4

Total up to 4 Indicators

Course Syllabus: Information and Communication Technology M2, Semester 1

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
1	**PS Topic 1**	■ Understand what Photoshop is used for ■ learn how to create a new image ■ Understand what a .psd image file is and what it is used for ■ Learn how to save an image as .psd ■ Learn keyboard shortcuts, copy, ctrl+c, paste, ctrl+v, save, ctrl+s	**Present:** Photoshop Basics **Activity:** Copy and Paste image from internet browser into PS	**Classroom work:** ■ Asking questions; monitoring; assessing projects, tasks and assignments, and other in-class projects **Assignments/ Homework:** ■ Examining homework **Test/Worksheet/Unit test:** ■ Worksheets, pop quizzes, chapter reviews, unit tests **Midterm and Final Exams**	**OT3.1, GLI M3/1** **OT3.1, GLI M3/2** **OT3.1, GLI M3/3** **OT3.1, GLI M3/4**
2	**PS Topic 1**	■ Demonstrate understanding of creating new images. ■ Demonstrate understanding of saving images in .psd format ■ Practice use of keyboard shortcuts	Project 1: Copy and paste 5 different images from Browser in to 5 new documents		
3	**PS Topic 2**	■ Understand the layout, menu bar, status bar, toolbox, palettes ■ Understand how to resize an image ■ Understand image proportions ■ Understand distortion of image, stretching or squashing, if not constraining proportions	**Present:** Photoshop Layout **Activity:** Resize an image		
4	**PS Topic 2**	■ Familiarize with the photoshop layout ■ Recognize key components of the interface ■ Practice image resizing ■ Understand image proportions	Project 2: Resize 5 images on one page using the correct proportions		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
5	**PS Topic 3**	■ Understand basic functions of the toolbox, selection tools ■ Understand how to change individual tool options to produce desired result using the options bar ■ Understand how to select colors using the color palette ■ Introduce the brush tool and eraser tool	**Present:** Photoshop Toolbox, the options bar and the color palette **Activity:** Create a new page, set a different background color, write your name with using the brush tool and again with the text tool		
6	**PS Topic 3**	■ Practice using the options bar ■ Practice using the brush tool ■ Practice using the color palette	Project 3: Create a poster with your nickname written 4 times, using 4 different brushes and four different colors		
7	**PS Topic 4**	■ Demonstrate the problem of not using layers when wanting to move things independently ■ Understand the problems associated with not using layers ■ Understand the layers palette and why layers are important ■ Understand the importance of renaming layers for easy identification ■ Introduce the move tool, rectangular marquee tool and paint bucket tool	**Activity:** Draw 2 different color boxes on the screen using the rectangular marquee tool and fill tool, try to move just 1 box **Present:** Photoshop Layers Palette **Activity:** Redo project 3 using layers		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		■ Practice moving layers around the image ■ Practice creating, deleting and renaming layers			
8	**PS Topic 4**	■ Practice creating, deleting and renaming layers ■ Practice using the options bar, brush tool and color palette ■ Practice using the move tool, rectangular marquee tool and paint bucket tool ■ Understand how to use the horizontal and vertical type tools ■ Understand how to change the font and size of the text using the options bar ■ Understand how to use layer style options to change how text looks ■ Practice creating text and modifying its appearance using layer styles	Project 4: Draw your favourite landscape separate using layers for each object		
9	**PS Topic 5**		**Present:** Type Tools and layers styles **Activity:** Create a gold type effect using layer styles		
10	**PS Topic 5**	■ Practice use of the horizontal and vertical type tools ■ Practice modifying type-tool text's appearance using layer styles	Project 5: Design a postcard for your favourite holiday destination that displays the name and "Wish you were here." in fancy styled text.		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
11	**PS Topic 6**	■ Introduce the quick selection tool ■ Introduce the lasso tool and magnetic lasso tool ■ Introduce free transform to resize images ■ Understand why it's important constrain proportions	**Present:** Using selection tools to select parts of an image		
12	**PS Topic 6**	■ Introduce the gradient tool ■ Practice using selection tools and lasso tools ■ Practice using working with layers	Project 6: Make a poster with your favourite pop / sport stars selected and cut from various photos		
13	**PS Topic 7**	■ Understand the role of filters in image manipulation ■ Understand how to access filters in the filter gallery and change options ■ Practice setting filters	**Present:** Making image adjustments and using the filter gallery **Activity:** Set a filter on any photo of your choice		
14	**PS Topic 7**	■ Practice setting filters ■ Practice making image adjustments	**Project:** Make a pop art style poster using the filter gallery		
15	**Review**		Midterm Test Review		
16	**Midterm Test**		Midterm Test		
16	**Week 9**	■ Understand the importance using online tutorials to guide self-learning	**Present:** Using online resources to guide self learning		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		■ Understand how to use online resources to find suitable tutorials ■ Choose a suitable tutorial to try			
18	**Tutorial 1**	■ Find an interesting tutorial ■ Practice reading and following instructions in English	Tutorial 1: Student chosen tutorial		
19	**Tutorial 1**		Tutorial 1 continued		
20	**Tutorial 1**		Tutorial 1 continued		
21	**Tutorial 2**	■ Find an interesting tutorial ■ Practice reading and following instructions in English	Tutorial 2: Student chosen tutorial		
22	**Tutorial 2**		Tutorial 2 continued		
23	**Tutorial 2**		Tutorial 2 continued		
24	**Tutorial 3**	■ Find an interesting tutorial ■ Practice reading and following instructions in English	Tutorial 3: Student chosen tutorial		
25	**Tutorial 3**		Tutorial 3 continued		
26	**Tutorial 3**		Tutorial 3 continued		
27	**Tutorial 4**	■ Find an interesting tutorial ■ Practice reading and following instructions in English	Tutorial 4: Student chosen tutorial		
28	**Tutorial 3**		Tutorial 4 continued		
29	**Tutorial 4**		Tutorial 4 continued		
30	**Final Exam Review**				
31	**Final Exam Review**				
32	**Final Examination**				

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Course Description: Information and Communication Technology M2, Semester 2

Subject: : Information and Computer Technology	**Course Number:** COM 20242	**Level:** M2
Period: 32 hours per semester	**Academic Credit:** 1	**Semester:** 2nd

The following course outline highlights the activities and objectives displayed lesson-by-lesson. The course is presented online through *http://codecademy.com*, which provides a complete introduction to HTML and CSS through interactive tutorials where the students must read the new information and write their own web pages based on the content taught during the lesson. Students will develop a basic understanding of the concepts of HTML and CSS through repetition and practice. Due to the nature of the website each student is able to work at their own pace and to their own abilities. Stronger students who finish the course early will be directed to study extra modules on *http://www.codecademy.com* that build on the skills learned through *http://codehs.com* in M1, and Codecademy's HTML and CSS course, which frees the teacher's time to focus on helping the weaker students and unsure that no child is left behind.

Areas covered within the ICT syllabus – and included as learning areas of the Occupations and Technology Core Curriculum -- include the processing of information technologies; communication; the search for data; application of data and information; solution of problems or creation of work; values and effects of ICT, which are key components of the ICT Core Curriculum.

Grade Level Indicators (GLI):

OT3.1, GLI M2/1	OT3.1, GLI M2/2	OT3.1, GLI M2/3	OT3.1, GLI M2/4

Total up to 4 Indicators

Course Syllabus: Information and Communication Technology M2, Semester 2

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
1	**HTML Basics**	■ Understand what HTML and CSS are used for ■ Define some basic HTML terminology ■ Explain and implement <head><title> <body> and <p> tags ■ Create all types of headings <h1> to <h6>	Activities 1 - 8	**Classroom work:** ■ Asking questions; monitoring; assessing projects, tasks and assignments, and other in-class projects **Assignments/ Homework:** ■ Examining homework **Test/Worksheet/Unit test:** ■ Worksheets, pop quizzes, chapter reviews, unit tests **Midterm and Final Exams**	**OT3.1, GLI M3/1** **OT3.1, GLI M3/2** **OT3.1, GLI M3/3** **OT3.1, GLI M3/4**
2	**HTML Basics**	■ Demonstrate knowledge of tags so far including <title>, <h3> and <p> ■ Define hyperlinks, explain their use and create a link using <a> ■ Understand and create an image tag <img> ■ Construct a linked image	Activities 9 - 14		
3	**Build Your Own Webpage**	■ Summative assessment of learning from HTML lessons 1 & 2 ■ Create a webpage with an HTML frame, including a header, paragraphs, images and links in either images or text	Activities 1 - 6		
4	**HTML Basics II**	■ Recognize HTML can be used to create lists ■ Recognize indentation and explain why it is used	Activities 1 - 6		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		■ Describe and create ordered and unordered lists ■ Demonstrate how to use nesting with lists			
5	**HTML Basics II**	■ Describe what inline CSS is ■ Use style attributes (including font-color, font-family, text-align) ■ Demonstrate how to bold and italicize text	Activities 7 - 16		
6	**Social Networking Profile**	■ Summative assessment of learning from HTML lessons 4 & 5 ■ Create a 'social networking profile', including lists of their interests and styling"	Activities 1 - 7		
7	**HTML Basics III**	■ Recognise structural tags <table>, and ■ Create a table with rows and columns and explain why we use them ■ Construct a table with multiple rows and columns"	Activities 1 - 5		
8	**HTML Basics III**	■ Design table formatting using style attributes ■ Illustrate how to use a tag and use it to create a link ■ Construct a paragraph with selective styling using the tag"	Activities 6 - 15		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
9	**Clickable Photo Page**	■ Summative assessment of learning from HTML lessons 8 & 9 ■ Create a 'clickable photo page': a table with multiple rows and columns containing images that link to external websites	Activities 1 - 7		
10	**CSS an Overview**	■ Explain what CSS is and the reason it is separate from HTML ■ Create a link to a CSS stylesheet ■ Describe 'selectors', 'properties' and 'values' and implement property-values ■ Illustrate CSS syntax and comments	Activities 1 - 12		
11		■ Explain why hexadecimal values are used in CSS ■ Explain why 'em' units are needed and the need for default fonts as backups ■ Create backgrounds and borders and style them	Activities 13 - 21		
12		■ Plenary: Build a basic HTML index page and linked CSS stylesheet	Activities 22 - 26		
13	**Design a Button for Your Website**	■ Plenary: Build a button by styling divs and links	Activities 1 - 6		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
14	**CSS Selectors**	■ Describe branching, children, parents and siblings ■ Demonstrate and understand how to format nested selectors and directly nested ■ selectors ■ Explain which selectors will override others	Activities 1 - 9		
15	**Review**		Midterm Test Review – HTML Only		
16	**Test**		Midterm Test – HTML Only		
17	**CSS Selectors**	■ Compare, Create and Implement Classes and IDs ■ Recognize and implement pseudo-class selectors for links (link, visited, hover) ■ Understand and use a 'first-child' and 'Nth-child' pseudo-class selectors	Activities 10 - 18		
18		■ Plenary: Construct HTML document and CSS stylesheet with selectors	Activities 19 - 23		
19	**Sorting Your Friends**	■ Plenary: Synthesizing Module 9: CSS Selectors	Activities 1 - 8		
20	**CSS Positioning**	■ Explain the box model and its importance in positioning ■ Demonstrate and understand the main display	Activities 1 - 12		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		properties and their differences ■ Explain and Implement margins, borders and padding ■ Describe how negative values impact the positioning of an element			
21	**CSS Positioning**	■ Explain and demonstrate the float and clear properties ■ Explain static, absolute, relative and fixed positioning ■ Plenary: Compose a webpage using CSS positioning	Activities 13 - 25		
22	**Build a Resume**	■ Plenary: Synthesizing Module 11: CSS Selectors	Activities 1 - 8		
23	**Project 1. Structure your page**	■ Understand what HTML & CSS are used for ■ Understand various HTML elements & implement them ■ Understand div elements and wrap elements with them	Activities 1 - 9		
24	**Project 2. Style your text**	■ Understand CSS rules & implement them ■ Understand selectors, classes & properties ■ Edit properties	Activities 1 - 13		
25	**Project 3. Style your elements**	■ Understand & practice editing properties ■ Create CSS rules to style elements	Activities 1 – 10		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
26	**Project 4. Organise your page**	■ Understand display, position & float properties ■ Implement display, position & float properties	Activities 1 - 4		
27	**Project 5. Kickstart your webpage**	■ Understand & implement Bootstrap ■ Understand & implement tabs, pills and jumbotrons ■ Use Bootstrap's grid to organise & create new sections ■ Edit CSS rules	Activities 1 - 14		
28	**Introduction to Dreamweaver**	■ Understand Dreamweaver's workflow ■ Understand how to save .html and .css pages.	Introduction to Dreamweaver		
28	**Introduction to Dreamweaver**	■ Understand Dreamweaver's workflow ■ Understand how to save .html and .css pages.	Introduction to Dreamweaver		
29	**Dreamweaver Project**	■ Create a multipage website. ■ Allow student to show their creativity	Dreamweaver Project		
30	**Dreamweaver Project**	■ Create a multipage website. ■ Allow student to show their creativity ■ Select the best students as potential candidates for next year's EP Open House Website competition.	Dreamweaver Project		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
31	Final Review – CSS		Final Test Review – CSS		
32	**Final Examination**				

ICT
M3

II. C. The Core Curriculum for ICT M3

Strands, Learning Standards, and Grade Level Indicators

Strand	Learning Standards		Grade Level Indicators (GLI)
3 Information and Communication Technology	**OT3.1**	Understanding, appreciation and efficient, effective and ethical application of information technology in searching for data, communicating, problem solving, working and livelihood.	1. Explain the principles of implementing a project requiring the application of information technologies. 2. Write the basic programming language. 3. Use the information technologies in forms appropriate to the type of work. 4. Use the computers to facilitate creation of work from imagination or from work performed in daily life in accordance with the principles of project implementation with awareness and responsibility.

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Course Description: Information and Communication Technology M3, Semester 1

Introduction to JavaScript Programming

Subject: : Information and Computer Technology	**Course Number:** COM 20242	**Level:** M3
Period: 32 hours per semester	**Academic Credit:** 1	**Semester:** 1st

The following course outline highlights the activities, terms to be learned and discussion questions displayed lesson-by-lesson. The course is presented online through *http://codehs.com*, which provides a complete introduction to computer science through videos and other interactive content, such as example programs to play/experiment with and activities where the students must write their own programs. Students will develop a basic understanding of the concepts of software development through repetition and practice. Due to the nature of the website each student is able to work at their own pace and to their own abilities. Stronger students who finish the course early will be directed to do extra modules on *http://www.codecademy.com* that builds on the skills learned through *http://codehs.com*, which frees the teacher's time to focus on helping the weaker students and unsure that no child is left behind.

ICT studies also include process of information technologies; communication; the search for data; application of data and information; solution of problems or creation of work; values and effects of ICT.

Grade Level Indicators (GLI):

OT3.1, GLI M3/1	OT3.1, GLI M3/2	OT3.1, GLI M3/3	OT3.1, GLI M3/4

Total up to 4 Indicators

Course Syllabus: Information and Communication Technology M3, Semester 1

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
1	**Sign up and Log in**	■ Sign up and login ■ Become familiar with the interface ■ Walk through first 2 activities	Sign up to codecademy.com	**Classroom work:** ■ Asking questions; monitoring; assessing projects, tasks and assignments, and other in-class projects **Assignments/ Homework:** ■ Examining homework **Test/Worksheet/Unit test:** ■ Worksheets, pop quizzes, chapter reviews, unit tests **Midterm and Final Exams**	**OT3.1, GLI M3/1** **OT3.1, GLI M3/2** **OT3.1, GLI M3/3** **OT3.1, GLI M3/4**
2	**Getting Started with Programming**	■ Understand what JavaScript is and what its used for ■ Understand and create comments ■ Demonstrate basic mathematical operations ■ Understand and create confirm and prompt dialogs ■ Understand data types in JavaScript: strings, numbers and Booleans	Activity 1 - 11		
3	**Getting Started with Programming**	■ Demonstrate console.log and recognise comparison operators ('<', '>', '==', '!==') ■ Understand and construct if / else statements using comparison operators ■ Understand and practice debugging ■ Review data types, comparators, if / else statements and maths operations ■ Understand and implement modulo (%) using an if / else statement	Activity 12 - 20		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
4	**Getting Started with Programming**	■ Understand and practice implementing the substring keyword ■ Understand and practice using variables ■ Review variables and manipulation of numbers & strings ■ Practice using variables in if / else statements	Activity 21 - 28	**Classroom work:** ■ Asking questions; monitoring; assessing projects, tasks and assignments, and other in-class projects **Assignments/ Homework:** ■ Examining homework **Test/Worksheet/Unit test:** ■ Worksheets, pop quizzes, chapter reviews, unit tests **Midterm and Final Exams**	**OT3.1, GLI M3/1** **OT3.1, GLI M3/2** **OT3.1, GLI M3/3** **OT3.1, GLI M3/4**
5		■ Plenary activity synthesising Module 1: Getting started with programming	Activity 1 - 3		
6	**Choose Your Adventure**	■ Assign prompt to a variable, construct if / else statements with comparison ■ operators and use console.log	Activity 4 - 7		
7	**Introductions to Functions in JS**	■ Understand what a function does and how it works ■ Practice creating and debugging functions	Activity 1 – 4		
8	**Introductions to Functions in JS**	■ Recognise and implement the return keyword ■ Recognise and implement functions with more than one parameter	Activity 5 – 9		
9	**Introductions to Functions in JS**	■ Understand and Evaluate Global and local variables ■ Practice functions with if / else statements	Activity 10 – 13		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
10	**Build "Rock, Paper, Scissors"**	■ Plenary activity synthesising Module 3: Introductions to functions in JS ■ Understand and implement Math. random() method and use else / if statement	Activity 1 – 4		
11	**Build "Rock, Paper, Scissors"**	■ Create functions using multiple if / else statements ■ Extension: Improve game with the skills previously acquired	Activity 5 – 9		
12	**Introduction to 'For' Loops**	■ Understand 'for' loops, how they are helpful and the general syntax ■ Understand how to initiate, control and end a for loop ■ Practice a 'for' loop counting down	Activity 1 – 4		
13	**Introduction to 'For' Loops**	■ Practice a 'for' loop counting down ■ Understand what an array is and how to create one	Activity 5 – 9		
14	**Introduction to 'For' Loops**	■ Understand how to access an element of an array ■ Practice creating and accessing all elements of an array using a for loop	Activity 9 - 13		
15	**Search Text For Your Name**	■ Plenary exercise synthesising Module 5: Introduction to 'For' Loops	Activity 1 – 7		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		■ Recognise and implement text wrapping and the .push() method for arrays ■ Create a searching program using for loops, if statements and console.log ■ Extension: Fix problems highlighted			
16	**Mid-term Review**				
17	**Mid-term Exam**				
18	**Introduction to 'While' Loops in JS**	■ Understand what a 'while loop is useful for and general syntax ■ Recognise infinite 'while' loops and the use of Booleans ■ Compare and evaluate 'while' and 'for' loops	Activity 1 – 5		
19	**Introduction to 'While' Loops in JS**	■ Understand and implement a do / while loop ■ Practice all types of loops	Activity 6 – 11		
20	**Dragon Slayer**	■ Plenary activity synthesising Module 7: Introduction to 'While' loops in JS ■ Create an interactive game, implement the math.floor method ■ Use a while loop and multiple if / else statements ■ Extension: Improve game and develop console.log statement	Activity 1 – 6		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
21	**More on Control Flow in JS**	■ Review if / else statements and for and while loops ■ Understand and implement the inNaN method	Activity 1 – 4		
22	**More on Control Flow in JS**	■ Understand and implement a switch statement, adding cases and a default	Activity 5 – 9		
23	**More on Control Flow in JS**	■ Understand and implement the 'And, 'Or', and 'Not' logical operators L5 programming 15	Activity 10 – 14		
24	**Choosing Your Own adventure 2**	■ Plenary activity synthesising Module 9: More on Control Flow in JS ■ Understand and use .toUpperCase() and .toLowerCase() ■ Implement a switch statement, if / else statements and logical operators ■ Extension: Add further cases to expand game	Activity 1 – 6		
25	**Arrays and Objects in JS**	■ Review arrays and practice looping through elements of arrays ■ Recognise a heterogeneous, two dimensional and jagged arrays	Activity 1 – 6		
26	**Arrays and Objects in JS**	■ Understand what objects are a compare the syntax for the two notations of declaring objects	Activity 6 – 12		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
27	**Arrays and Objects in JS**	■ Practice creating a heterogeneous and multidimensional array with an object ■ Practice creating and editing objects	Activity 9 – 17		
28	Contact List	■ Plenary activity synthesising Module 11: Arrays and Objects in JS ■ Create objects within objects with various types of properties	Activity 1 – 8		
29	**Contact List**	■ Implement a for / in loop to search properties of object ■ Recognise and implement conventional formatting	Activity 1 – 8		
30	**Final Review**		**Final Review**		
31	**Final Review**				
31	**Midterm Examination**				

Course Description: Information and Communication Technology M3, Semester 2

Creative Project

Subject: : Information and Computer Technology	**Course Number:** COM 20243	**Level:** M3
Period: 32 hours per semester	**Academic Credit:** 1	**Semester:** 2nd

The following course outline highlights the activities and objectives displayed lesson-by-lesson. The course is presented live through a series of presentations and activities designed to walk students through designing a software product or media product using the software development life cycle, SDLC. Students will learn new product design skills and improve their ICT skills while working on a project of their choice to encourage creativity. The project is broken down into 5 parts, the project introduction, analysis, design, implementation, testing and review which will be documented in the project's documentation. The project documentation will be completed during the activities after each presentation. Additional time during classes is given to designing and implementing the product.

ICT studies also include process of information technologies; communication; the search for data; application of data and information; solution of problems or creation of work; values and effects of ICT.

Grade Level Indicators (GLI):

OT3.1, GLI M3/1	OT3.1, GLI M3/2	OT3.1, GLI M3/3	OT3.1, GLI M3/4

Total up to 4 Indicators

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Course Syllabus: Information and Communication Technology M3, Semester 2

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
1	**Project Intro**	■ Understand what a project involves ■ Think of ideas ■ Show examples from last year	**Present:** Introduce project **Activity:** Write ideas	**Classroom work:** ■ Asking questions; monitoring; assessing projects, tasks and assignments, and other in-class projects **Assignments/ Homework:** ■ Examining homework **Test/Worksheet/Unit test:** ■ Worksheets, pop quizzes, chapter reviews, unit tests **Midterm and Final Exams**	**OT3.1, GLI M3/1** **OT3.1, GLI M3/2** **OT3.1, GLI M3/3** **OT3.1, GLI M3/4**
2		■ Discuss ideas with students	Project ideas discussion		
3		■ Discuss ideas with students ■ Select a suitable project, mustn't be too easy or too difficult	**Present:** Choosing a project **Activity:** Choose project		
4		■ Finalize ideas ■ Show an example cover page ■ Create a cover page	Activity: Create a project cover page		
5	**Project Analysis**	■ Understand what an analysis is ■ Understand what a problem statement is ■ Define the problem the project is trying solve	**Present:** The Problem statement **Activity:** Write a problem statement		
6		■ Understand how to analyze the problem statement and deduce the project needs ■ Define the needs of the project	**Present:** Project Needs **Activity:** Write the project needs		
6		■ Understand what a requirement is ■ Understand how to deduce what is essential to meet the needs, which will be the basic requirements ■ Define the essentials	**Present:** What is essential to meet the need? **Activity:** Create a table with 2 columns, column 1 enter needs 1 per row and column 2 enter essentials for each need		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
		■ Define basic design requirements			
8		■ Understand how to search for similar products ■ Research similar products ■ Consider whether features are necessary to our product	**Present:** Researching similar products **Activity:** Research features of similar products and consider whether feature is necessary		
9		■ Understand how to decide which features are necessary for our design and which are not ■ Understand that any necessary features will be added to our design requirements ■ Select necessary features ■ Update the design requirements	**Present:** Selecting necessary features from similar products **Activity:** Update the design requirements		
10	**Project Design**	■ Understand the different tools available to help design, wireframing for layout, Storyboards for movies, animations, story books ■ Select the correct design tools to use	**Present:** Designing your project **Activity:** Search for online design tools and select the correct tool for your project		
11	**Project Analysis**	■ Create designs for layout, flow, storyboards etc.	Design time		
12	**roject Design**	■ Create designs for layout, flow, storyboards etc.	Design time		

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Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
13	**Project Design**	■ Create designs for layout, flow, storyboards etc.	Design time		
14		■ Create designs for layout, flow, storyboards etc	Design time		
15	**Mid-term Review**				
16	**Mid-term Exam**				
17	**Project Implementation**	■ Introduce beginning implementation ■ Begin creating product	**Present:** Implement product		
18		■ Create product	Implementation time		
19	**Project Implementation**	■ Create product	Implementation time		
20		■ Create product	Implementation time		
21		■ Create product	Implementation time		
22		■ Create product	Implementation time		
23		■ Create product	Implementation time		
24		■ Create product	Implementation time		
25	**Project Testing**	■ Create product	Implementation time		
26		■ Understand the importance of testing ■ Create a table to log bugs / problems	Present: The importance of testing Activity: Create a test log table		
27		■ Test product ■ Fix bugs / problems	Testing time		
28	**Project Review**	■ Test product ■ Fix bugs / problems	Testing time		
29		■ Understand the importance of reviewing ■ Review project	**Present:** Reviewing your project		

Lesson 1 hour lesson	Topic	Objectives	Activities	Overall Assessment/ Evaluation	Strand/Grade Level Indicators/
			Activity: Answer questions to review project		
30		■ Review project	Activity: Answer questions to review project		
31	**Final Review**				
31	**FINAL EXAM**				

III. Assessment and Evaluation of Students' Achievement

Overall Assessment

The primary goal of assessment and evaluation is determine whether or not the prescribed learning standards have been achieved. Information is gathered to help teachers determine students' strengths and weaknesses in learning mathematics. The overall assessment also helps teachers to create instructional approaches to motivate students and in assessing the overall effectiveness of classroom practices.

Assessment or evaluation is the method of gathering information from learning sources including assignments, projects, classroom participation and tests that correctly depict the student performance. Overall assessment refers to the quality of judging student performance based on the criteria set for each level. Students will receive feedback from teachers at the end of each semester in the form of a letter. Areas of assessment include:

Classroom work:

- Asking questions; monitoring; assessing projects, tasks and assignments, and other in-class projects

Assignments/Homework:

- Examining homework

Test/Worksheet/Unit test:

- Worksheets, pop quizzes, chapter reviews, unit tests

Mid-term and Final Examinations

Criteria for Grading System

Semester 1:

Test/Quizzes/Unit Test	Seatwork/ Homework	Participation	Midterm Exam	Total (Summative 1)
5	15	5	20	45

Semester 2:

Test/Quizzes/ Unit Test	Seatwork/ Homework	Participation	Final Exam	Total (Summative 2)
5	10	5	30	55

Final Grade is computed by adding Summative 1 (Semester 1) and Summative II (Semester 2)

Summative I	Summative 2	Final Grade
45	55	100