



ST. MAARTEN ACADEMY

Information Technology

Year Plan- (2020-2021)

Form 3

Rationale

Information Technology has evolved over the past decade in response to the need for more efficient techniques to manage the significantly increased volume and sophistication of the knowledge reservoir of mankind.

It merges the study of Computer science, telecommunications and Office Automation; involves the collection, storage, accessing, processing and dissemination of information and impacts on both work and leisure activities.

The syllabus aims to provide the kind of practical experience which includes an element of discovery, and fosters self-confidence, together with the practical skills that will prepare students to meet the region's need for greatly increased productivity and cost-effective procedures.

Aims

The syllabus aims to;

1. Prepare students to function effectively in a dynamic technological era
2. Provide a foundation for post-secondary education
3. Facilitate the development and application of problem-solving skills in students.
4. Promote the development of computer-related skills for immediate application to other curricular areas.

Term One

Week/s	Topic	Objectives	Assessment
1 - 2	The Computer System	<ul style="list-style-type: none"> • Explain how the computer works (I-P-O-S) • Identify the major components that make up a typical computer • Explain the function of the CPU, main memory, storage and input and output devices • List the types of computer software and describe their purpose • Interpret the hardware specifications of a computer system 	<ol style="list-style-type: none"> 1. Activity 1.2-1.3 (fA) 2. Quiz (gA) 3. Review Q&A (fA)
3	Input and Output Devices	<ul style="list-style-type: none"> • Explain the uses of various input devices and media in the home, retail and manufacturing sector • State the functions of specified output devices. • Define common terms such as hardcopy, softcopy, human-readable, machine-readable 	<ol style="list-style-type: none"> 1. Activity 3.2 - 3.3 (gA) 2. Review Q&A (fA)
4 - 5	Primary and Secondary Storage Devices	<ul style="list-style-type: none"> • Define what is primary storage and secondary storage and differentiate between the two types • Outline the functions of RAM, ROM, PROM, EPROM • Identify common secondary storage media and compare their storage capacity/performance • Define common terms such as read/write head, tracks, sectors, buffers, cylinder, access time, device interface, direct access 	<ol style="list-style-type: none"> 1. Activity 2.1, 2.3 & MC Quiz (gA) 2. Review Q&A (fA)
6	Data Unit/Storage Conversion	<ul style="list-style-type: none"> • Convert between units of storage: bits, bytes, kilobytes, megabytes, gigabytes, terabytes 	<ol style="list-style-type: none"> 1. Structure Q's #6 (gA) 2. Review Ex. 2.1-2.3 (pg.15) (fA)
7	Weeks 1 – 6 Topics	<ul style="list-style-type: none"> • Demonstrate proficiency of week 1 -6 lesson objectives 	<ol style="list-style-type: none"> 1. Mid-Term Test. (gA)

8 -9	System Programs and Application Programs	<ul style="list-style-type: none"> • Distinguish between system and application programs • Explain the functions of the Operating System • Distinguish among key terms such as multitasking, multiprocessing and multiprogramming • Explain the different forms of processing modes • Distinguish between the types of user interfaces 	<ol style="list-style-type: none"> 1. Activity 6.1 (fA) 2. Quiz (gA) 3. Review Q&A (fA)
10	Data storage and representation	<ul style="list-style-type: none"> • Explain what Storage medium and storage devices is (and how they work together) 	<ol style="list-style-type: none"> 1. Activity 5.1 (fA)
11	Diskette structure, hard drive, access time, buffers and caches Review	<ul style="list-style-type: none"> • Explain how data is stored on a diskette • Define the hard drive structure • Calculate access time on storage device • Describe similarities and differences between buffers and caches • Distinguish between serial access and direct access 	<ol style="list-style-type: none"> 1. Class Exercise on IT Portfolio #2, 3 pg. 25 (fA)
12	Exam reviews	<ul style="list-style-type: none"> • Review Term One Objectives 	<ol style="list-style-type: none"> 1. Review Q&A (fA)
End of Term Comprehensive Exam			

Term Two

Week/s	Topic	Objectives	Assessment
1 - 3	Mastering Word-processing	<ul style="list-style-type: none"> • Use columns, lists and tables appropriately • Select appropriate editing and formatting features in the preparation of a document • Use headers, footers, footnotes and endnotes • Use other features such as find and replace, spell check • Create a resume and cover letter using Word 	1. Activity 12.7, 12.8, 12.13, 12.19 (fA) 2. Practical Test 12.18, 12.21, MCQ (gA) 3. Review Q&A
4 - 5	Mastering Presentations	<ul style="list-style-type: none"> • Create a new presentation using a template • Add text, images, media content to slides • Use formatting features effectively to enhance presentation. • Print and present a slide show • Explore other presentation software available 	1. Activity 13.1 - 13.6 (gA) 2. Assignment FP.1 pg.242 (gA) 3. Review Q&A (fA)
6 - 7	Mastering Spreadsheets	<ul style="list-style-type: none"> • Use appropriate terminology and notions commonly associated with spreadsheets. • Effectively navigate the worksheets contained in a workbook • Create a spreadsheet using labels, values and formulas • Apply formatting to a spreadsheet • Sort and Filter data in a spreadsheet • Select predefined basic functions/formulas 	1. Ex. 15.1, 15.2, 15.4, 15.5 & MC Quiz (gA) 2. Review Q&A (fA)
8	Weeks 1 – 7 Topics	<ul style="list-style-type: none"> • Demonstrate proficiency of week 1 -7 lesson objectives 	1. Practical Mid-Term Test. (gA)
9 -10	Introduction to Database Management	<ul style="list-style-type: none"> • Distinguish between flat and relational database structures • Use appropriate terminology commonly associated with a database • Create a database consisting of at least two tables and modify its structure • Create a professional-looking report 	1. Database Assignment (gA)
11	Mail Merge Documents	<ul style="list-style-type: none"> • Prepare a mail merge using an external data source 	1. Assignment (gA)
12 - 13	Term Reviews	<ul style="list-style-type: none"> • Review Term Two Objectives 	1. Review Q&A (fA)

Term Three

Week/s	Topic	Objectives	Assessment
1 - 2	The Internet and Communications Technology	<ul style="list-style-type: none"> Define what data communication is Define what a network is Describe the main types of network. Discuss ways for connecting in a network Outline common modes of communication (Simplex, Half-Duplex, Duplex) Distinguish intranet, internet and extranet Explain concepts associated with the Internet 	1. ITQ 1 -10 (fA) 2. IT Portfolio #2, pg.59 (gA) 3. Review Q&A (fA)
3 - 4	Information Processing	<ul style="list-style-type: none"> Distinguish between data and information Explain the characteristics and functions of information processing Describe methods of validation and verification Describe how files are organized and accessed Select appropriate forms of file organization 	1. ITQ 1 - 10 (fA) 2. MC Quiz (gA) 3. Review Q&A (fA)
5 - 6	Data Security Threats	<ul style="list-style-type: none"> Identify threats to the security of data Identify threats to the integrity of data Outline ways by which information can be misused Describe measures to secure data Describe measures to maintain data integrity 	1. Activity 8.2, Structured Questions & MC Quiz (gA) 2. Review Q&A (fA)
7	Weeks 1 – 6 Topics	<ul style="list-style-type: none"> Demonstrate proficiency of week 1 -6 lesson objectives 	1. Mid-Term Test.
8 - 10	Problem-solving and Programming	<ul style="list-style-type: none"> Outline Steps in problem-solving Distinguish between variable and constants Use appropriate data types Explain the concept of algorithms Identify ways of representing algorithms Develop algorithms to solve simple problems Test algorithms for correctness 	1. Activity 10.1 - 10.4 (gA) 2. Quiz (gA) 3. Review Q&A (fA)
11 -12	Exam reviews	<ul style="list-style-type: none"> Review Terms 1 - 3 Objectives 	2. Mock Exam (gA)
End of Year Comprehensive Exam			