

NANYANG POLYTECHNIC INFOCOMM CLUB PROGRAMME

Year 1 Programme

Title of Module: IT Skill-sets Development

Objectives of Module: Introduction to various IT Technologies

No. of Sessions Needed: 30 x 2 hours

Breakdown of Each Session

Session	Topic	Specific Objectives	Activities	Format (Lecture, Tutorial or Project Work)	Hrs
1	Software & Applications	Student will learn basic technologies in web development and web publishing.	Web application development, design of websites	Workshops and fun activities	12
2	Mobile Technologies	Students will learn basic technologies in mobile applications. Areas include mobile devices, mobile technologies involving WIFI, Bluetooth, etc.	Mobile applications, sms applications, java applications	Workshops and fun activities	12
3	Security & Networking	Students will learn basic networking technologies as well as understand the security aspects in computers and networks.	DIY PC Assembly, Home Networking, Security issues	Workshops and fun activities	12
4	Games Development	Students will learn about technologies used in games development.	Online games development, mobile games development	Workshops and fun activities	12
5	Digital Media	Students will learn about how to generate interesting digital media.	Digital images, Digital media applications	Workshops and fun activities	12

NANYANG POLYTECHNIC INFOCOMM CLUB PROGRAMME

Year 2 Programme

Title of Module: E-Learning Media-Rich Content Development
Objectives of Module: Learn how to develop media-rich e-learning materials
No. of Sessions Needed: 24 x 2.5 hours
Resources Needed: Macromedia Flash

Session	Topic	Specific Objectives	Activities	Format (Lecture, Tutorial or Project Work)	No. of Hours
1	Basic concepts	<ul style="list-style-type: none">• Basic Flash Concepts<ul style="list-style-type: none">○ Timelines, Layers○ Symbols, Instances, Library○ Frames, Key Frames○ Movie clips, Graphics, Buttons• Simple drawing	Workshop	Practical Lab	2.5
2	Simple Animation	<ul style="list-style-type: none">• Motion Tweening<ul style="list-style-type: none">○ Paths○ Scaling• Shape Tweening• Frame by Frame animation	Workshop	Practical Lab	2.5

NANYANG POLYTECHNIC INFOCOMM CLUB PROGRAMME

Session	Topic	Specific Objectives	Activities	Format (Lecture, Tutorial or Project Work)	No. of Hours
3	Revision: Using sounds	Revise: <ul style="list-style-type: none"> • Importing sounds • Synching animations with sound 	Workshop	Practical Lab	2.5
4 - 5	Introduction to Programming and ActionScript	Learn: <ul style="list-style-type: none"> • Variables and data types • Control structures <ul style="list-style-type: none"> ○ if... else statements ○ switch statements ○ for loops ○ while loops • Advance data types <ul style="list-style-type: none"> ○ Arrays ○ Stacks ○ Queues • Functions <ul style="list-style-type: none"> ○ Named functions ○ Anonymous functions ○ Calling functions ○ Writing functions 	Workshop: <ul style="list-style-type: none"> • Various programs implementing the action script 	Practical Lab	5
6	Animation with ActionScript	Learn how to animate using ActionScript	Lab exercise: <ul style="list-style-type: none"> • Calculate and animate flight of projectile 	Practical Lab	2.5

NANYANG POLYTECHNIC INFOCOMM CLUB PROGRAMME

Session	Topic	Specific Objectives	Activities	Format (Lecture, Tutorial or Project Work)	No. of Hours
7 - 8	Interactivity with ActionScript Events	Learn: <ul style="list-style-type: none"> • Buttons • Text input • Sounds • States • Mouse events • Keyboard events 	Lab exercise: <ul style="list-style-type: none"> • Cannon game: allowing player to change angles and power • Using sounds with ActionScript. • Adding player 2 	Practical Lab	5
9 - 10	Structure of e-Learning material	Learn how to create a simple e-learning module: <ul style="list-style-type: none"> • Intro • Contents • Summary • Revision (quiz) 	Lab Exercise: <ul style="list-style-type: none"> • Projectile and trajectory e-learning module without quiz. 	Practical Lab	5
11	Creating MCQ quizzes	Learn how to create MCQ quizzes <ul style="list-style-type: none"> • Creating questions • Evaluating users' answers • Revealing and explaining correct answers 	Lab Exercise: <ul style="list-style-type: none"> • Add Quiz to Projectile and trajectory module. 	Practical Lab	2.5
12	Development of E-learning project	Analyse and design project	Group project: <ul style="list-style-type: none"> • Research content • Planning and storyboarding 	Project work	2.5

NANYANG POLYTECHNIC INFOCOMM CLUB PROGRAMME

Session	Topic	Specific Objectives	Activities	Format (Lecture, Tutorial or Project Work)	No. of Hours
13 - 23	Development of E-learning project	Integration of knowledge learnt and focused learning and application of specific skill-sets and features required of the project.	Group project: <ul style="list-style-type: none">• Gathering content• Preparing graphics and animations• Programming	Project work	27.5
24	Development of E-learning project	Presentation of project	Group project: <ul style="list-style-type: none">• Presentation	Student presentations	2.5

NANYANG POLYTECHNIC INFOCOMM CLUB PROGRAMME

Year 3 Programme

Title of Module: Video Podcasting

Objectives of Module: This course aims to introduce students to the concept of digital video production, conversion and broadcasting through collaborative hands-on activities in developing a Podcast streaming site with self-produced contents. It allows students to express their creativity through the publishing and broadcasting of their self-produced media contents through a project-based learning approach.

No. of Sessions Needed: 24 x 2.5 hours

Resources Needed:

Software

Microsoft Frontpage/Macromedia Dreamweaver

Apple iTunes

Apple QuickTime Pro

Microsoft MovieMaker or Ulead

Web Browser - Internet Explorer (version 6 or later)

Darwin Streaming Server (Open Source)

Hardware

Windows 2003 server with at least 2GB HDD space

Desktop headsets/ Microphones

Fire Wire and Fire Wire port, or USB

Video Camera

Session	Topic	Specific Objectives	Activities	Format (Lecture, Tutorial or Project)	No. of Hours
---------	-------	---------------------	------------	---------------------------------------	--------------

NANYANG POLYTECHNIC INFOCOMM CLUB PROGRAMME

				Work)	
1	Introduction	<ul style="list-style-type: none"> • Overview of the course • The emergence of the new Web 	Workshop: identify characteristics and components of good websites.	Lecture and Practical Lab	3
2	Basic Video Creation	<ul style="list-style-type: none"> • Video Capturing Techniques • Basic Video Editing Techniques • Saving RAW Video • Video Capture and Storing 	Assignment/Project: Video capturing and video creation	Lecture and Practical Lab	20
3	Video Conversion	<ul style="list-style-type: none"> • Introduction to rich media formats • Understand compression techniques and features • Perform video Compression 	Project(continued): Video capturing, video creation and Video Compression Student will learn to convert the captured video in the previous workshop to a compressed format for efficient streaming to mobile devices.	Lecture and Practical Lab	3
4	Publish Web Media Content	<ul style="list-style-type: none"> • Introduction to RSS feeding and podcasting • Development of Media Website (RSS) 	Project: Media Website Creation Student will learn to create a web site to store various media files and allowing the media to be fed	Lecture and Practical Lab	6

NANYANG POLYTECHNIC INFOCOMM CLUB PROGRAMME

			through the web site for user to subscribe.		
5	Media Content Streaming	<ul style="list-style-type: none"> • Introduction to media streaming servers • Configure and setup a Darwin Streaming Server 	<p>Project: Streaming Video & Implementing Podcast</p> <p>Student will learn the setup and deployment of the streaming server with the integration of the rich media website to be created in Assignment 3.</p>	Lecture and Practical Lab	6
6	Setting and Publication of Website Multimedia Devices Security, ethics and copyrights	<ul style="list-style-type: none"> • Website Development using HTML • Create and deploy multimedia website with video hosting • Introduction to web site security, ethics and copyrights • Types of risks and threats 	<p>Project: Website development. Creation of multimedia website with video hosting. Student will learn the setup of the streaming server and streaming the video.</p> <p>Lecture</p>	Lecture and Practical Lab	19 3