| **วิชา(Subject) Computer**  **ช่วงชั้น (Level) …1 (P.1-3)…..**  **20 weeks(2 periods/week): Teaching 36 periods and Examination 4 periods/semester, Total: 40 periods** | | | | | |
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| **ประถมศึกษาปีที่1 (Primary 1)** | | **ประถมศึกษาปีที่ 2 (Primary 2)** | | **ประถมศึกษาปีที่ 3 (Primary 3)** | |
| **1** | **2** | **3** | **4** | **5** | **6** |
| **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** |
| **Subjects: Electronic Devices** | **Subjects: Additional Parts of Computer** | **Subjects: TUX Paint** | **Subjects: WordPad** | **Subjects: Computer System and MSW Logo** | **Subjects: Information Technology and Ms KODU Game Lab** |
| 1. Electronic Devices (6 periods)   (Viva Computer book 2)  Chapter 1 page 5-7  (6 periods)   1. Know your Computer.(6 periods)   Viva dot com book 2 page 1 - 3 Exercise page 5   1. About computer(6 periods)   Viva dot com book 1 page 13-15   1. The monitor and the System unit(6 periods)   Viva dot Com book 1 page 24-28   1. The mouse (6 periods)   Viva dot Com book 1 exe.page 41-42   1. The keyboard(6 periods)   Viva dot Com book 1  exe.page 32-35   1. Pre-test (2 periods) 2. Post-test (2 periods) | 1.Additional parts of Computer  (12 periods)  ACSP computer book unit 7  2. What can Computer do?  (12 periods)  ACSP computer book unit 8  3. Windows Application(12 periods)  MS paint  Viva dot com book 1  Exe.page 50-52  Pretest (2 periods)  Posttest (2 periods) | 1. Knowledge Base Society(6 periods)   Viva Computer book 2 chapter 1 page 6 chapter 2 page 12-13   1. Data Communication and computer network.   (6 periods)  ACSP Computer book chapter 2   1. Internet and E-Commerce   (6 periods)  ACSP Computer book chapter 3   1. Operation System(OS)   (6 periods)  ACSP Computer book chapter 4   1. TUX Paint (8 periods)   ACSP Computer book chapter 5   1. TUX Paint Workshop   (8 periods)  ACSP Computer book chapter 6 | 1.Information Technology (6 period)  ACSP Computer book chapter 1  2.Ethics information Technology  (6 periods)  ACSP Computer book chapter 2  3.Knowing your computer(6 periods)  ACSP Computer book Chapter 3  4.Knowledge Management(6 periods)  ACSP Computer book chapter 4  5.WordPad (8 periods)  Viva Computer book chapter 6  page 55-57  6.WordPad workshop(8 periods)  ACSP Computer book Chapter 6 | 1. Know Your Computer of the computer.   (2 periods)  Viva book 4 (p.16-18)   1. Using windows (2 periods)   Viva book 2 (p.35-37)   1. Computer Devices(2 periods)   Viva book 2(p.20-22,p.28-32,p.37-40)   1. Data Storage and Capacities(2 periods)   Viva book 5(p.23-26)   1. Introduction on MSWLOGO program   (22 periods)  Viva book 4(p.42-47,53-55,101-104)   1. Internet and Search Engine(4 periods)   Viva book 4(p.98-100)  Viva book 6(p.119-121)   * Pretest (2 periods) * Review for exam(2 periods) * Final exam(2 periods)   \*Total 20 weeks,40 periods | 1. The basic components of the computer(IPOS)(2 periods)  2.Data (Data Source, Kinds of Data)   1. periods)   3.Information Technology(2 periods)   * 1. Information Technology   2. The role and benefits of IT   3. Ethics in IT   4. Maintenance of IT equipment   5. Internet Safety   4.Introduction to MS KODU Game Lab   1. periods)   5.Getting started with KODU program  (2 periods)  6.Laad a world(2 periods)  7.Adding Objects and Characters to the world (18 periods)  \* All of Chapter using viva book 2 (p.20-22,p.28-32,p.37-40) |

| **วิชา(Subject) Computer**  **ช่วงชั้น (Level) …2 (P.4-6)…..**  **20 weeks(2 periods/week): Teaching 36 periods and Examination 4 periods/semester, Total: 40 periods** | | | | | |
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| **ประถมศึกษาปีที่ 4 (Primary 4)** | | **ประถมศึกษาปีที่ 5 (Primary 5)** | | **ประถมศึกษาปีที่ 6 (Primary 6)** | |
| **1** | **2** | **3** | **4** | **5** | **6** |
| **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** |
| **Subjects**  **Program Power point** | **Subjects**  **Program Publisher& Internet** | **Subjects: Program Thai Typing & MS. word & Internet & Search Engine.** | **Subjects: Program English Typing & MS. word** | **Subjects: Program Scratch** | **Subjects: Program Logo blocks** |
| 1. Introduction to PPt2010&   Launching PPT Application(2 periods) Viva book 4 page 80-81   1. Creating a New Presentation , Adding &Moving Slide, Formatting( 4 periods)   Viva book 4 page 82   1. Saving a New Presentation ,Creating a Folder & Assigning Filename(2 periods) Viva book 4 page 87 2. Applying Design Theme &Customizing Theme Background using Solid Fill   (2 periods)Viva book 4 page 84   1. Theme Background(2 periods)   Viva book 4 page 85   1. Word Art(4 periods)   ACSP book Chapter 3   1. Picture (4 periods)   ACSP book chapter 4   1. Shapes (4 periods)   ACSP book chapter 5   1. Smart Art Graphics(4 periods)   ACSP book chapter 5   1. Charts (4 periods)   ACSP book chapter 6   1. Modifying Charts(4 periods)   ACSP book chapter 6   1. Table(4 periods)   ACSP book chapter 6   1. Animation and Transition   (2 periods)  ACSP book chapter 7 | 1. Internet(6 periods)  Viva book 7 page 75-80  2.Introduction to Publisher 2013(4 periods)  ACSP book chapter 1  3.Producing a Publication(4 periods)ACSP book chapter 2  4.Creating a New Publication  (6 periods)  ACSP book chapter 3  5.Working with Text  (4 periods)  ACSP book chapter 4  6.Working with Shapes and Objects(6 periods)  ACSP book chapter 5  7.Working with Pictures  (6 periods)  ACSP book chapter 6  8.Working with Tables  ( 4 periods)  ACSP book chapter 7 | 1. Internet & Search Engine.(4 periods)   ACSP Computer book Unit 1-3  Viva Computer book 6 Page 119-120   1. Introduction to Thai typing chapter 1,2(4 periods)   ACSP Computer book Unit 5   1. Thai Typing chapter 2,4 keyboarding (4 periods)   ACSP Computer book Unit 5   1. Thai Typing chapter 5,6 keyboarding (4 periods)   ACSP Computer book Unit 5   1. Ms. Word Toolbar, Paragraph Formating,Header,   Footer ,Text Formatting (4 periods)  ACSP computer book Unit 4  Viva book 4 page 76-78  Viva book 9 page 93-94   1. Ms. Word Insert Graphic,image,Bullet   &Numbering(4 periods)  ACSP computer book Unit 4  Viva book 5 page 47-49,63-64   1. Ms. Word WordArt,Table,Shape,Smart,Art,Mail Marge(4 periods) Viva book 6 74-76   ACSP computer book Unit 4   1. Thai typing chapter 7,8(4 periods)   ACSP book unit 5   1. Thai Typing chapter 9,10(4 periods)   ACSP book unit 5   1. Thai Typing chapter 11,12(4 periods)   ACSP computer book unit 5 | 1. Data and information(4 periods)  ACSP computer book unit 1  2. Ms. Word Reviews (4 periods)  - Birthday Card  - Create a story in English  ACSP computer book 2 unit 2  3.Ms. Word Review (4 periods)  - Create a story in Thai typing  ACSP computer book unit 2  4.English Typing Chapter 1,2 keyboarding  (4 periods)  ACSP computer book unit 3  5.English typing chapter 3,4 keyboarding  (4 periods)  ACSP computer book unit 3  6.English typing chapter 5,6 keyboarding  (4 periods)  ACSP computer book chapter 3  7.English typing chapter 7,8 keyboarding  (4 periods)  ACSP computer book chapter 3  8.English typing chapter 9,10 keyboarding  (4 periods)  ACSP computer book 3  9. English typing chapter 11,12 keyboarding  (4 periods)  ACSP computer book chapter 3  10.English typing chapter 13,14 keyboarding  (4 periods)  ACSP computer book chapter 3 | 1. Introduction and Computer data Storage(2 periods)(Ex. unit 1 page 7)  2. Search Engine and Flowchart  (2 periods)(Ex. unit 2 page 10)  Ex. Viva book 6 page 24-27)  3. Introduction to scratch and move command(2 periods)  (practice Scratch move command)  4. Say command (2 periods)  (practice Scratch say command)  5. Sound command(2 periods)  (practice Scratch Sound command)  6. Pen command(2 periods)  (Practice Pen command)  7. Ask command(2 periods)  (Practice Ask command)  8. Loop(forever & Repeat)(2 periods)  (Practice Scratch Control command)  9. touching game(2 periods)  (Practice Scratch game)  10. Half semester review(2 periods)  11. Bouncing Ball(2 periods)  (Practice Scratch game)  12. Shooting game (2 periods)  13. Counter –Strike game(2 periods)  14. Story board(4 periods)  15. Project Programming(4 periods)  (Hands – on Programming the Project)  16. Presentation the project  (4 periods)  17. Semester review(2 periods) | 1. Introduction to robot  (2 periods)(Unit 1)  2. Components And building  (2 periods)Ex. Unit 2 p.17-23  3. Connections(2 periods)  Ex. Unit 3 p.36-38  4. Square and Turn(2 periods)  (Activity for Move command)  5. Circle(2 periods)  (Activity for Move command)  6. Touch sensor and repeat  (2 periods)(Activity for input command and Touch sensor)  7. LED and Touch sensor  (2 periods)(Activity for output command and Touch sensor)  8. LDR(2 periods)(Activity for LDR sensor and LDR command)  9. Half semester review  (2 periods)  10. Infrared Sensor(2 periods)  11. Sumo Competition(2 period)  12. Racing Robot(2 periods)  (Activity for Touch sensor and command)  13. Can’s wall(2 periods)  14. Victory Curve(4 periods)  15. Maze Bot (4 periods)  16. Color Decision(4 periods)  17. Semester review(2 periods) |

| **วิชา(Subject) Computer**  **ช่วงชั้น (Level) …3 (M.1-3)…..**  **20 weeks(2 periods/week): Teaching 36 periods and Examination 4 periods/semester, Total: 40 periods** | | | | | |
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| **ชั้นมัธยมศึกษาปีที่ 1 (Secondary 1)** | | **ชั้นมัธยมศึกษาปีที่ 2 (Secondary 2)** | | **ชั้นมัธยมศึกษาปีที่ 3 (Secondary 3)** | |
| **1** | **2** | **3** | **4** | **5** | **6** |
| **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** |
| **Subjects Pages for Mac** | **Subjects Robot** | **Subjects Arduino and app Inventor programming** | **Subjects Arduino Microcontroller Progrmming** | **Subjects Excel 2013** | **Subjects FileMaker Pro** |
| 1. Introduction(4 periods)    1. How to use mac    2. Tools Bars & Create 2. Formatting ( 8 periods)   Viva book 6 p.82 chapter 8  Exercise (Fill in the blank, Tick the Correct option, T or F)   1. Drawing(16 periods)   Viva book 5 p.52 chapter 6  Exercise (page 62 ,Ex. A,B,C)   1. Tables(12 periods)   Viva book 5 p.58 -60 Chapter 6  Exercise(page 64,Ex. D,E) | 1.Robot Hardware (6 periods)  - Fill in the blank(Knowing the components of the NXT Robot)  2.Assmbling the Robot( 8 periods)  -Hand – on(Enumerate the parts of the Robot)  (Assemble the Robot Bared on Instruction)  3.Robot Sensors(10 periods)  -Hands-on (Create a program using different kinds of sensors to perform different kinds of Actions)  -Enumerate all kinds if Sensors)  4.Loops(14 periods)  -Hands-on(Crate different Kinds of programs based on the Problem) | 1.Functions(4 periods)  Book :CBSE p.363 LAXMI(P)LTD  2.Data Type(4 periods)  Book :CBSE p.217 LAXMI(P)LTD  3.Arduino UNO Anatomy(2 periods)  4.Digital and Analog(4 periods)  5.IF,Loop(4 periods)  Book: C++Programming p.25  LAXMI(P)LTD  6.Symbol names (2 periods)  Book:C++Programming book 9 p.14 BU  7.Arduino Hands On(4 Periods)  8.Servos(4 periods)  9.The Buzzer(4 periods)  10.The Temperature Sensor  (4 periods)  11.Bluetooth and App Inventor   1. periods) | 1.Arduino Microcontroller Programming(4 periods)  2.Programming control 3 LEDS   1. periods)   3. Servo motors(4 periods)  4. Light Sensors( 4 periods)  5. Temperature and Buzzer(4 periods)  6. Switch and motors(4 periods)  7.Motor Drive(4 periods)  8.Smart Home Project (4 period)  9.Control easy pass project(4 periods)  10.Control Smart Car project(4 periods) | 1. Data and Excel tables(2 period)   Bu book 6 page 57-63   1. Performing calculations on data   (6 periods)Bu book 6 page 76   1. Changing workbook appearance.   (4 periods) Bu book 6 page 76- 77   1. Focusing on specific data by using   (6 periods)ACSP book unit 2 page 94   1. Reordering and summarizing data   (6 periods)ACSP book unit 2 page 122   1. Combining data from multiple sources   (4 periods)ACSP book unit 2 page 142   1. Analyzing data and alternative data sets   (4 periods)ACSP book unit page 161   1. Creating charts and graphics(2 periods) 2. Using pivot Tables and Pivot charts   (4 periods)Bu book 6 unit 2 page 290   1. Printing worksheets and Charts 2. periods) Bu book 6 page 81 | 1.Basic knowledge with database and DBMS(4 periods)  Viva book 8 chapter 4 page 37  2.Advantages of a Database(2 periods)  Viva book 8 chapter 4 page 38  3.Hierachy of a Database(2 periods)  Viva book 8 chapter 4 page 38  4.Basic structure of a Table(4 periods)  Viva book 8 chapter 4 page 49  5.Modifying the structure of a Table  (4 Periods)  Viva book 8 chapter 4 page 51  6.Creating a Database(6 periods)  Viva book 8 chapter 5 page 45 Workshop page 57  7.Creating tables (4 periods)  Viva book 8 chapter 5 page 45-47  8.Relationship and Customizing  (4 periods)  ACSP book Unit 5 page 30-35  9.Simplifying data entry(4 Periods)  ACSP book unit 7 page 51  11.Creating and running report  (2 periods)  ACSP book unit 9 page 55 |

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| **วิชา(Subject) Computer**  **ช่วงชั้น (Level) …4 (M.4-6) สายวิทย์-คณิต(Science-Math)**  **20 weeks(2 periods/week): Teaching 36 periods and Examination 4 periods/semester, Total: 40 periods** | | | | | | |
| **ชั้นมัธยมศึกษาปีที่ 4 (Secondary 4)** | | | **ชั้นมัธยมศึกษาปีที่ 5 (Secondary 5)** | | **ชั้นมัธยมศึกษาปีที่ 6 (Secondary 6)** | |
| **1** | | **2** | **3** | **4** | **5** | **6** |
| **ภาคเรียนที่ (Semester) 1** | | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** |
| **Subjects C language programming** | | **Subjects**  **IPST Micro Box** | **Subjects Robo Creator** | **Subjects**  **Robo Creator 2 Make Project** | **Subjects Sketch up** | **Subjects**  **Mac Basics** |
| 1. Introduction mathematic of computer (Unit I)   Ex.book ACSP unit I(4 periods)   1. Introduction of C (Unit II)   Unit I of BU book(2 periods)   1. Data-type (Unit III ACSP)   (2 periods)   1. Variables (Unit IV ACSP)   (2 periods)   1. Input/output (Unit V ACSP)   (4 periods)   1. Writhing programing   (Unit VI)(6 periods)   1. Operator (Unit VII)   (4 periods)  Unit II BU book page 20-26   1. Control statement(Unit VIII)   Unit II BU book page 28-35  (6 periods)   1. Loops (Unit IX ACSP)   (6 periods)  Unit II BU book page 38 – 39   1. Arrays (Unit X ACSP)(4 periods)   Unit III BU book page 44-56   1. Functions (Unit VI ACSP)   Unit IV BU book (4 hr.) | | 1.Introduction of Micro Box and Using IPST Micro Box (2 periods)  2.How to use Wiring Program and use C/C++ (Arnuino) (4 periods)  3.Write program use GLCD graphic  (4 periods)  4. Control LED(6 periods)  5.Control sensor(6 periods)  6.Switch(6 periods)  7.Light(6 periods)  8.Motor(6 periods) | 1. Introduction (2 periods)   (ATX2,Arnuino software)   1. GLCD(4 periods) 2. Motor(Syntax ,functions, programming, Testing(6 periods) 3. Sensor(Systax,functions, testing ,Programming )(6 periods) 4. Loops(Syntax and functions)   (6 periods)   1. Switch(6 periods) 2. Switch by loop(4 periods) 3. Switch and Motor(6 periods) 4. Switch and Sensor (6 periods) 5. Light sensor(6 periods) | 1.Project 1 ( 4 periods)  ACSP book lab # 6 page 124-126  2.Using Motors and sensor(2 periods)  3.Present how to make the Robot of Project 1( 2 periods)  4.Project 2 (LAB#7 page 127-133)  (4periods)  5.Using Motors and Light sensor   1. periods)   6.Present how to make the Robot of Project 2 (2 periods)  7.Project 3(6 periods) (LAB# 9-10 p.124-125)  8.Using Motor and Switch(4 periods)  9.Present how to make the Robot of Project 3(2 periods)  10.Project 4(6 periods)  11.Using Motor and switch and apply the project(2 periods)  12.Present how to make the Robot of Project 4(2 periods) | 1. Introduction the layout interface   (4 periods)  (introducing layout interface & basic tools)   1. Drawing lines and shapes.   (4 periods)  (Design/ make first structure design using basic tools)   1. Filling shapes with color and patterns(4 periods)   (Make a kitchen and bedroom design)   1. Dimensions and point(4 periods)   (Design a living room)  Project: I Design a lawn/garden area  ( 10 periods)  II Create a floor plan and exterior design.(10 periods) | 1.Introduction Mac Screen Components  (4 periods)  (Introduction Mac screen usage, for example: Apple menu the dock, trash etc.  2.Learn to Pages applications(4 periods)  (Introduction to Document Management applications, for example: Create a work file, Print letter etc.)  3.Lean N to Number applications(4 periods)  (Introduction to the use of scheduling software for calculations, for example: Daily account, class schedule etc.  4. Learn to key Note applications.  (8 periods)  (introduce to the presentation program, for example: present the work of students in animation format)  5.Learn to I-Movie applications(8 periods)  (Introduction to the creation of short films.)  *Project : I :Plan to make a short movie(Storyboard)(1 periods)*  *II: Make a short movie impression in school(10 periods)* |
| **วิชา(Subject) Computer**  **ช่วงชั้น (Level) …4 (M.4-6) สายศิลป์(Math – Art)**  **20 weeks(2 periods/week): Teaching 36 periods and Examination 4 periods/semester, Total: 40 periods** | | | | | | |
| **ชั้นมัธยมศึกษาปีที่ 4 (Secondary 4)** | | | **ชั้นมัธยมศึกษาปีที่ 5 (Secondary 5)** | | **ชั้นมัธยมศึกษาปีที่ 6 (Secondary 6)** | |
| **1** | **2** | | **3** | **4** | **5** | **6** |
| **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** |
| **Subjects**  **Adobe Flash CS6** | **Subjects ภาษา**  **HTML** | | **Subjects Adobe Photoshop CS6** | **Subjects**  **Adobe Illustrator CS6** | **Subjects Sketch up** | **Subjects**  **Mac Basics** |
| 1. Introduction(4 periods)   Viva book 7 unit 4 page 42   1. Using Drawing Tools(6 periods)   Viva book 7 unit 4 page 42-44   1. Timeline Layers(6 periods)   Viva book 7 unit 5 page 53   1. Text Effect (8 periods)   Viva book 7 unit 5   1. Animation(10 periods)   Viva book 7 unit 5 page 54-69,  Ex.p.70-74   1. Action Script(6 periods)   BU –Teacher’s hand book page 39-40 | 1.Introduction to HTML(4 periods)  (basic Web page and Internet Vocabularies )  Viva book 10 unit 1-2 page 1-22  2. HTML Structure(4 periods)  Viva book 10 unit 6 page 128-135  3.Formatting (4 periods)  (Text, Fonts, Color, Bg Color)  Viva book 10 unit 6 page 137  4. Display(4 periods)  Viva book 10 unit 6 page 157  5.Picture management(4 periods)  Viva book 10 unit 6 page 136  6. hyper link and Achors(6 periods)  Viva book 10 unit 6 page 138  7.Table (4 periods)  Viva book 10 unit 6 page 140  8.Frames (4 periods)  Viva book 8 unit 2 page 19  9. Project work/Testing(4 periods) | | 1. Introduction(2 periods)   Viva book 8 unit 8 page 88   1. Applications or Photoshop(2 periods)   Viva book unit 8 page 88   1. Staring Adobe Photoshop(4 periods)   Viva book 8 unit 8 page 88-89   1. Components of Adobe Photoshop opening screen(2 periods)   Viva book 8 unit 8 page 89   1. Tools palette (4 periods)   Viva book 8 unit 8  Page 89-92   1. Creating opening and saving on image(2 periods)   Viva book 8 unit 8 page 93   1. Selections(8 periods)   Viva book 8 unit 8 page 94-98   1. Using canvas of the image (4 periods)   Viva book 8 unit 9 page 102   1. Painting with color (4 periods)   Viva book 8 unit 9 page 103-104   1. Brightness and contrast (4 periods)   Viva book 8 unit 9 page 104   1. Retouching Tools (2 periods)   Viva book 8 unit 9 page 106-108   1. Layer (2 periods) viva book 8 unit 9 page 109-110 | 1. Applications (4 periods)  Viva book 8 unit 8 page 88  2. Components(4 periods)  Viva book 8 unit 8 page 89  3.Tools Palette(6 periods)  Viva book 8 unit 8 page 89-92  4.Creating ,Opening and Saving  (4 periods)  Viva book 8 unit 8 page 93  5.Making Selections(10 periods)  Viva book 8 unit 8 page 94  6.Drawiong Shapes (12 periods)  Viva book 8 unit 9 page 105 | 1. Introduction the layout interface   (4 periods)  (introducing layout interface & basic tools)   1. Drawing lines and shapes.   (4 periods)  (Design/ make first structure design using basic tools)   1. Filling shapes with color and patterns(4 periods)   (Make a kitchen and bedroom design)   1. Dimensions and point(4 periods)   (Design a living room)  Project: I Design a lawn/garden area  ( 10 periods)  II Create a floor plan and exterior design.(10 periods) | 1.Introduction Mac Screen Components  (4 periods)  (Introduction Mac screen usage, for example: Apple menu the dock, trash etc.  2.Learn to Pages applications(4 periods)  (Introduction to Document Management applications, for example: Create a work file, Print letter etc.)  3.Lean N to Number applications(4 periods)  (Introduction to the use of scheduling software for calculations, for example: Daily account, class schedule etc.  4. Learn to key Note applications.  (8 periods)  (introduce to the presentation program, for example: present the work of students in animation format)  5.Learn to I-Movie applications(8 periods)  (Introduction to the creation of short films.)  *Project : I :Plan to make a short movie(Storyboard)(1 periods)*  *II: Make a short movie impression in school(10 periods)* |

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| **วิชา(Subject) Computer ECC**  **ช่วงชั้น (Level) …4 (M.4-6)**  **20 weeks(2 periods/week): Teaching 36 periods and Examination 4 periods/semester, Total: 40 periods** | | | | | |
| **ชั้นมัธยมศึกษาปีที่ 4 (Secondary 4)** | | **ชั้นมัธยมศึกษาปีที่ 5 (Secondary 5)** | | **ชั้นมัธยมศึกษาปีที่ 6 (Secondary 6)** | |
| **1** | **2** | **3** | **4** | **5** | **6** |
| **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** |
| **Subjects Sketch up Make** | **Subjects Sketch Up Professional** | **Subjects: Adobe Premiere Pro CC** | **Subjects: Adobe After Effect (ECC 1)** | **Subjects Multimedia** | **Subjects Multimedia** |
| 1. Internet Sketch up Make (6 periods)   ACSP book chapter 1   1. Principal Tools(6 periods)   ACSP book chapter 2   1. Drawing Tools(6 periods)   ACSP book chapter 3   1. Modification Tools(6 periods)   ACSP book chapter 4   1. Construction Tools(8 periods)   ACSP book chapter 5   1. Collateral Design Project (8 periods)   ACSP book chapter 6 | 1.Layer in Sketch Up Pro(6 periods)  ACSP book chapter 1  2.Selecton Plan(6 periods)  ACSP book chapter 2  3. 2D&3D Model(6 periods)  ACSP book chapter 3  4.Packing Design (6 periods)  Workshop: Packing Design  5.Product Design (8 periods)  Workshop: Product Design  6.Architecture Design(8 periods)  Workshop: Architecture Design | 1.Adobe Premiere Pro CC (4 periods)  2.Video(6 periods)  3.Video Transition and Video Effect  (15 periods)  4.Export and File Video(15 periods) | 1. Adobe After Effect 1(10 periods) 2. Adobe After Effect 2(15 periods) 3. Effect (15 periods) | 1. Introduction to Multimedia   (4 periods)  -Meaning ,Components,  Technology   1. Multimedia Design(12 periods)   -Text Hypertext and Hypermedia  ,Image and Animation, Sound and Video   1. Multimedia Application   (16 periods)  -Slide Presentation ,Video Clip, Video Karaoke   1. Creative works(10 periods)   -Preproduction, Present ,Production | 1.Introduction to Multimedia  (4 periods)   * Trimble Connect   2.Multimedia Design(12 periods)  - Reload 3Dwarehoues models  3.Multimedia Application  (16 periods)   * Generate report, Layout cloud references   4.Creative works(10 periods)  - Preproduction,Present,Production |