SEMESTER 1

BETC 1303
BASIC ELECTRONICS / ELEKTRONIK ASAS

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Describe basic functions of electronic components
2. Solve basic electronic circuits analysis using simulation software.
3. Display and evaluate the performance of electronic circuits
4. Perform effectively in given tasks and assignment by managing different information from multiple resources

SYNOPSIS
This course discusses the concept of basic electronic components quantity such as charge, current, voltage, energy and power. It will cover topics on concepts, functions and applications of electronic components such as resistors, inductors, capacitors, diodes, BJT and FET transistors, switch and relays, and also operational amplifiers. Introduction to the digital systems and the display technologies will also be given.

REFERENCES
2. Earl Gates, 2014, Introduction to basic electricity and electronics technology, Clifton Park
5. Om Prakash, 2013, Electronics coursebook, Anmol Publicalt

BETC 1323
COMPUTER ENGINEERING WORKSHOP I / BENGKEL KEJURUTERAAN KOMPUTER

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Describe basic electronic components.
2. Design and simulate electronics computer aided design software for circuit analysis.
3. Construct and demonstrate basic soldering technique for circuit.
4. Revise the alternatives that exist in the selection of hardware, software and computer engineering facilities from different resources when implementing the given task.
5. Work effectively as individual or in group and present the given task orally.
6. Study the various resources to complete the given task.

SYNOPSIS
The first part is dedicated to general practice of engineering. Students will experience mechanical, electrical, electronic and manufacturing practices. The topics covered in first part are electronics circuit design and analysis using electronics computer aided design software, printed circuit board design and fabrication and soldering technique for electronic circuits. The second part is dedicated for practice of computer engineering. The topics that will cover in second part are three major areas in computer engineering discipline namely computer networking, operating system and computer organization.

REFERENCES
3. EMC and the Printed Circuit Board: Design, Theory and Layout Made Simple, Mark.I, WILEY.
4. Turbo Cad Deluxe V.15 2D & 3D Precision Design by IMSI 2008
LEARNING OUTCOMES

Upon completion of this subject, students should be able to:
1. Apply basic programming principles and algorithms of C programming language.
2. Construct C programming structure using programming fundamentals and principles.
3. Analyze small to medium scale problems and develop solutions.
4. Demonstrate an understanding of ethical and legal responsibility in code of conduct.

SYNOPSIS

This subject will discuss on basic programming principles such as introduction to C programming consists of syntax, variables and basic data type, more fundamentals programming structure such as operator, rules / condition, looping, function, array and sequences. The subject is a compulsory to build a basic background in programming. Visual C++ IDE will be used for the compiler and editor in this subject.

REFERENCES

BETC 1333
COMPUTER ENGINEERING WORKSHOP II /
BENGKEL KEJURUTERAAN KOMPUTER II

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain the acquired knowledge from the engineering practice and safety measure.
2. Identify related industrial problems and suggest possible solutions.
3. Display the right work attitude.
5. Prepare technical report by using various resources.
6. Discuss elements of entrepreneurship in related field.

SYNOPSIS
This subject will be provided students need to prepare and submit a technical report based on the acquired knowledge and exposure gained during computer engineering practice. In addition, students will also involve in industrial visit and hearing industrial talk as part of the industrial exposure.

REFERENCES
3. EMC and the Printed Circuit Board: Design, Theory and Layout Made Simple, Mark.I, WILEY.
4. Turbo Cad Deluxe V.15 2D & 3D Precision Design by IMSI 2008

BETC 1343
DATABASE MANAGEMENT SYSTEM /
SISTEM PENGURUSAN PANGKALAN DATA

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Describe the concept of database, data modelling (relationship) and SQL statements basic functions of electronic components
2. Design data conceptual representation using Entity Relationship Model
3. Construct database application based on the current problem requirement
4. Perform effectively as individual or in group to complete tasks and assignment

SYNOPSIS
This subject will discuss on introduction to database and file management system. It assists the students to form an understanding of data modeling, file management and database system functionality in information system. The students will be introduced to the process of designing, developing and executing database applications. This course focuses on practical skills to create, control and execute statement for database relationship. MySQL Workbench software will be used to design and model the databases for this course.

REFERENCES
LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Apply advanced programming principles and algorithms in C programming language
2. Construct C programming structure using advanced programming techniques and principles.
3. Design and develop well-structured and reliable program in C programming language.
4. Follow standard engineering manual to present report development of application program.
5. Demonstrate an understanding of ethical and legal responsibility in code of conduct.

SYNOPSIS
This subject will discuss on more advanced C programming principles such as pointers, characters and strings, structures, unions, bit manipulations and enumerations and file processing. Chapters are integrated with problem solving methods. The subject is a compulsory to strengthen programming skills in students. Visual C++ IDE will be used for demonstration and laboratory sessions in this subject.

REFERENCES

PRE-REQUISITE
BETC 1313
PROGRAMMING FUNDAMENTAL / ASAS PENGATURCARAAN

SEMESTER 3
BETC 2363
DATA STRUCTURE & ALGORITHM / STRUKTUR DATA & ALGORITMA

LEARNING OUTCOMES
Upon completing this course, the student should be able to:
1. Apply the concept of data structures and algorithm analysis.
2. Discover the benefits and drawbacks of data structures in terms of memory and run time efficiency.
3. Construct a small application system using appropriate data structures and algorithms to minimize the use of memory and run time of the system.
4. Organize data structures and construct algorithms to solve the given experimental problem.
5. Perform effectively as individual or in group to complete tasks and assignment.

SYNOPSIS
This subject will expose the students to the fundamental knowledge of data structures and algorithm analysis. The topics that will be covered in the course include the introduction to data structures and algorithm analysis, fundamental of C++ programming language, object-oriented development, Array, List, Stack, Queue, Trees, Sorting and Searching algorithms. Apart from the theory, students are asked to apply the data structures and algorithms through a small application that is developed in a team. Microsoft Visual Studio C++ will be used as editor for C++ programming languages in this course.

REFERENCES
BETT 2333
COMMUNICATION PRINCIPLE / PRINSIP KOMUNIKASI

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Demonstrate basic principles and components of telecommunication system.
2. Measure the performance of analog and frequency modulation techniques through experiments that commonly used in telecommunication system.
3. Design solution for linear or angle modulation system based on given specifications.
4. Demonstrate the effects of noise in telecommunication systems.
5. Work and discuss effectively either individually or in group for any assignment and experiment.
6. Construct experiments and display technical reports.

SYNOPSIS
This subject will discuss on Introduction to Telecommunication, Linear Modulation, Single Sideband (SSB) Communication Systems, Angle Modulation, Noise and Introduction to Digital Communication The rationale of offering this subject is as the progression of communication system where students should have knowledge of communication principles and basic skills required by the industry.

REFERENCES

BETT 2423
SIGNAL & SYSTEMS / ISYARAT & SISTEM

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain different types of signal and systems properties that are commonly used in engineering.
2. Produce the Fourier series and transform in terms of applicable time functions and the resulting spectral properties.
3. Apply the continuous-time Fourier Transform in analyzing non-periodic signal.
4. Use Laplace transform in 2nd order circuit analysis
5. Manipulate and explain a simple Matlab programming for signal and system applications.
6. Report and explain their given assignment clearly.

SYNOPSIS

REFERENCES
BETC 2373
ELECTRICAL TECHNOLOGY / TEKNOLOGI ELEKTRIK

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Apply the concept of AC voltage and current, single phase, three-phase, transformer and magnetic circuit.
2. Apply the principles of the transformer, magnetic circuit, single phase, three-phase and alternating voltage and current.
3. Mix the application of the power system and electrical transmission in single phase and three-phase.
4. Classify the application of the alternating voltage and current, single phase, three-phase, transformer and magnetic circuit.
5. Work as a team to measure correctly the voltage and current in single phase, transformer and magnetic in laboratory experiments.

SYNOPSIS
This subject will discuss on Alternating Voltage and Current, Phasor, Magnetic Circuit, Electromotive force, magnetic field strength, relation between B and H, Kirchhoff’s law magnetic hysteresis, Single Phase Circuit, series resonance, parallel resonance, power factor, transformer, phasor diagram, equivalent circuit voltage regulation and efficiency, O/C and S/C test, Voltage generation and excitation methods, Basic principles of power system, per unit system, electrical transmission.

REFERENCES

SEMESTER 4
BETC 2373
COMPUTER ORGANIZATION & ARCHITECTURE / ORGANISASI & SENIBINA KOMPUTER

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Describe and explain the internal structure and function of a computer system.
2. Develop assembly language program segments to accomplish simple tasks for any given instruction set.
3. Measure experimental performance using computer system.
4. Complete tasks and assignment effectively as instructed.

SYNOPSIS
This course aims primarily to give the students a general understanding of how computer systems work, both internally (ALU, control unit, registers, etc.) and externally (I/O interfaces, networking, etc.). Such understanding will enable the graduates to make intelligent decisions when confronted with computer-related problems at their workplace. The knowledge and skills gained in this course will also enable the graduates to further their studies in the field of computer architecture, organization, and design. This course will provide student with full understanding of the inner-workings of digital computer systems and tradeoffs present at the interface of hardware-software. Students will get an understanding of the design process of a complex hardware system and hands-on experience with computer-aided design tools.

REFERENCES
LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain the basic concepts, elements and uses of Local Area Network (LAN) and Wide Area Network (WAN).
2. Design medium access control (MAC) protocols and analyze critically the problems for various wired and wireless networks implementation.
3. Trace the Internet Protocols (IP): IPv4 and IPv6, TCP and UDP service models and connection establishments.
4. Justify the alternatives that exist in the selection of hardware, software and transmission facilities from different resources when designing and implementing network in a group project.
5. Present the assignments and present technical reports both orally and in writing.

SYNOPSIS
This subject will discuss on Introduction to Computer Network and System, Networking Equipments and Data Communications, Network Architecture and Protocols, Local and Wide Area Networks, Client-Server Computing: Web technologies, Wireless, Mobile Computing and Mobile Data Access

Computer Network and System is a program targeted for dynamic digital and communication careers. It is strongly emphasis on technical aspect and enables employers to meet the needs of Computer Networks and System graduates including some of the best platform for many companies specializing in computer networking and system. This unique curriculum balances theory with extensive hands-on experiments.

REFERENCES

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain and apply the concepts of computer networks, core components of the Internet infrastructure, protocols and services
2. Analyze the implementation of client and server application.
3. Select the best Internet application according to the current situation based on various resources
4. Measure experimental performance using various internet security protocols

SYNOPSIS
This subject provides an introductory knowledge of technologies related to Internet applications and services. The students are introduced to Internet protocols and their functionalities as well as hardware required to develop and implement Internet applications and services. The course is extended by an introduction to concept of Human-Computer Interaction (HCI) and its relationship in system development. The topics include the basic understanding of cognitive psychology, user interface design, and interaction design. This course is highly in demand since in the past few years there has been an explosion in the number of people using the Internet as well as multimedia.

REFERENCES
BETC 2404
DIGITAL ELECTRONICS / ELEKTRONIK DIGITAL

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Describe basic functions of digital components
2. Design digital system using combinational and sequential logic.
3. Display and evaluate the performance of sequential logic circuits.
4. Perform effectively as individual or in group to complete tasks and assignment
5. Present the assignments and present technical reports both orally and in writing

SYNOPSIS
This subject covers the topics of transistor-transistor logic. Logic functions, logic diagrams, Karnaugh maps, Boolean algebra, DeMorgan’s Theorem. Numerical codes, arithmetic functions. Combinational circuits such as encoders, decoders, multiplexers, de-multiplexers, comparators. This subject also covers the introduction to memory, programmable logic devices and microcomputer systems. Student will learn the topics on latches and flip-flops, flip-flops operating characteristics and applications. Registers and counters, shift registers, synchronous, asynchronous and modulo counters.

REFERENCES

SEMESTER 5
BETC 3453
OPERATING SYSTEMS / SISTEM PENGOPERASIAN

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain the major components of an operating system, its responsibilities and aspects
2. Differentiate the functionality among various kinds of operating system.
3. Manipulate operating system theory to solve the basic functional kernel problems
4. Perform assignment and present technical report both orally and in writing.

SYNOPSIS
This subject introduces the internal operation of modern operating systems. In particular, the topics that will be covered in the course are Fundamental of Operating Systems, Process & threads Management, Concurrency Control, Memory Management, I/O Systems, File Systems, Protection and Security. Linux will be used as operating system for this course.

REFERENCES
BETC 3413
DISCRETE MATHEMATICS / MATEMATIK DISKRIT

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain fundamental concept of discrete mathematics
2. Solve problems in computer engineering using software by referring to discrete mathematic theory.
3. Discuss solutions in group to problems through relevant information by selecting the suitable discrete structure techniques.

SYNOPSIS
This subject will discuss on Functions, Relations and Sets: Functions, Relations, Discrete versus continuous functions and relations, Sets, Cardinality and countability; Basic Logics: Propositional logic, Logical connectives, Truth tables, Use of logic to illustrate connectives, Normal forms (conjunctive and disjunctive), Predicate logic, Universal and existential quantification, Limitations of predicate logic, Boolean algebra, Applications of logic to computer engineering; Proof Techniques: Notions of implication, converse, inverse, negation, and contradiction, The structure of formal proofs, Direct proofs, Proof by counterexample, contraposition, etc; Basics of Counting: Permutations and combinations, Counting arguments rule of products, rule of sums, The pigeonhole principle, Generating functions, Applications to computer engineering; Graphs and Trees: Trees, Undirected graphs, Directed graphs, Spanning trees, Shortest path, Euler and Hamiltonian cycles, Traversal strategies; Recursion: Recursive mathematical definitions, Developing recursive equations, etc.

REFERENCES

BETC 3423
COMPUTER SYSTEM ENGINEERING / KEJURUTERAAN SISTEM KOMPUTER

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain the fundamental computer system knowledge and requirements.
2. Analyze analytical models of computer systems and components with respect to reliability, performance and life cycle cost.
3. Adapt the concept and theory of computer system engineering to solve the given experimental problem.
4. Work effectively as individual or in group to complete tasks and assignment.

SYNOPSIS
This subject covers topics on the engineering of computer software and hardware systems: techniques for controlling complexity; strong modularity using client-server design, virtual memory, and threads; networks; atomicity and coordination of parallel activities; recovery and reliability; privacy, security, and encryption; and impact of computer systems on society.

Knowledge, understanding, analysis and design abilities are developed principally through lectures and tutorials. Practical and design skills are developed through laboratory work involving problem solving assignments and practical exercises.

REFERENCES
BETC 3433
COMPUTER NETWORK & SECURITY / RANGKAIAN & KESELAMATAN KOMPUTER

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain and elaborate the concept of computer security theories and related items.
2. Manipulate the suitable components in providing service and security mechanism in computer software, operating system, database, network system and computer security management.
3. Design the appropriate security system mechanism for computer software and computer network.
4. Perform effectively as individual or in group to complete tasks and assignment.
5. Present the assignments and present technical reports both orally and in writing.

SYNOPSIS
This subject will be discussed on how to control failures of confidentiality, integrity and availability in applications, databases, operating systems and networks alike. Besides that students should be able to implement the cyber law to protect their rights. Students also will learn on how to plan the recovery solution if any disaster happens to the computing environment.

REFERENCES

PRE-REQUISITE
BETC 2383
COMPUTER NETWORK & SYSTEM / SISTEM & RANGKAIAN KOMPUTER

BETC 3444
MICROPROCESSOR & MICROCONTROLLER TECHNOLOGY / TEKNOLOGI MIKROPEMPROSES & MIKROPENGAWAL

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Describe the microprocessor and microcontroller’s architecture and peripheral subsystem of MC68K and PIC16F877A.
2. Classify interrupts and internal registers modifications to solve specific I/O tasks.
3. Display microprocessor and microcontroller subsystem’s performance in peripheral interfacing via high/low level language
4. Design and develop a microcontroller-based system with peripheral devices interface.
5. Perform efficiently as individual or in group to complete tasks and assignment.

SYNOPSIS
This subject will provide the students both solid theoretical and practical applications to the microprocessors / microcontrollers based system. Extensive practical-oriented sessions will be given using MC68K microprocessor and PIC microcontroller involving program development software, chip programming and debugging. Topics covered are microcomputer system & peripheral design, software and hardware integration; interrupt control system, analog interfacing, etc.

REFERENCES
SEMESTER 6

BETU 3764
BACHELOR DEGREE PROJECT I /
PROJEK SARJANA MUDA I

LEARNING OUTCOMES
At the end of the subject, students should be able to:
1. Explain the problem, objectives and scope of project associated to the industrial or community needs.
2. Use related previous work and its relevant theory
3. Choose a proper methodology
4. Present the preliminary findings in the oral and written forms effectively

SYNOPSIS
The student needs to plan and implement the project individually that related to the respective engineering technology field. The student should implement a project, do the analysis and apply the theory to solve the problems related to topic. At the end, the student should write a problem based learning report that covers problem statement, literature review, methodology to overcome the problem. The student needs to achieve the objective of the project and presented it in the report.

REFERENCES
Manual Projek Sarjana Muda (PSM), Fakulti Teknologi Kejuruteraan, Universiti Teknikal Malaysia Melaka.

BETC 3463
SOFTWARE ENGINEERING /
KEJURUTERAAN PERISIAN

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain the basic concept, element and uses of software engineering, database systems and project management
2. Develop software application with database management system according to the suitable software process lifecycle
3. Adapt suitable CASE tool to solve case study given
4. Perform ethically in solving given software engineering problems by managing different information from multiple resources
5. Work effectively as individual or in group to complete tasks and assignment.

SYNOPSIS
This subject will discuss on Introduction to software development, software engineering and database system; Software lifecycle model, CASE tools, requirement definition and management, requirement analysis, requirement specification document. Software design and modelling; design process, design quality and metrics, design strategy, software testing, database management and query language. Software Project management including estimation and quality management. Unified Modelling Language (UML) is used to design and model in the software development process. For this purpose, Poseidon will be used as the software tools.

REFERENCES
BETT 3373
DIGITAL SIGNAL PROCESSING / PEMPROSESAN ISYARAT DIGITAL

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Describe the basic theory in digital signal processing.
2. Demonstrate the concepts in digital signal processing such in discrete-time signals and systems and spectrum representations.
3. Display the impulse response, signal flow graph using difference equations, stability determination and z-transform.
4. Combine basic digital filter concepts in digital filters design.
5. Complete tasks and assignment effectively as individual or in group.

SYNOPSIS
This subject will discuss on Introduction to DSP, discrete-time signals and systems, spectrum of representation of discrete-time signals, discrete Fourier transform, difference equations and discrete-time systems, z-transform and its applications, analysis and design of digital filters and application of digital signal processing.

REFERENCES

PRE-REQUISITE
BETT 2423
SIGNAL & SYSTEMS / ISYARAT & SISTEM

SEMESTER 7
BETU 4774
BACHELOR DEGREE PROJECT II / PROJEK SARJANA MUDA II

LEARNING OUTCOMES
After completing the course, students will be able to:
1. Execute project implementation systematically.
2. Interpret data in a meaningful form using relevant tools
3. Work independently and ethically.
4. Present the results in the oral and written forms effectively.

SYNOPSIS
This is the second part of the Bachelor Degree Project. Students are expected to continue the project done in Bachelor degree Project Part 1 till completion. At the end of the semester students are required to submit the Bachelor Degree Project report both orally and in writing for assessment.

REFERENCES

PRE-REQUISITE
BETU 3764
BACHELOR DEGREE PROJECT I / PROJECT SARJANA MUDA I
BETE 4443
QUALITY MANAGEMENT / PENGURUSAN KUALITI

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Use and understanding the quality concepts and the different perspective on quality theories.
2. To apply the quality tools to solve any problems in organisation.
3. Work effectively as individual or in a group.
4. Study and explain the application of sig-sigma to improve the quality of management, process and product in organisation.
5. Managing the international quality standard for the customer’s satisfaction.

SYNOPSIS
This subject will discuss on the different of quality theories for many organisation, comparisme international quality standard for customer satisfaction. The designing of strategy planning, strategy process and ethic to enhance the quality improvement for process and, product with using quality tools. Six –sigma are using for management to improve the mangement strategy planning.

REFERENCES
3. Stephen R. Covey’s book, The 7 Habits of Highly Effective People

BETE 4473
EMBEDDED SYSTEM / SISTEM TERBENAM

LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Explain key features of embedded systems.
2. Designs embedded system program code and construct simulation of embedded software in host and target system.
3. Construct embedded system hardware design by selecting the suitable embedded system architecture, e.g. system form factor, processors, hardware and necessary peripheral interfaces, based on the sustainability and system requirement.
4. Perform assignment and present technical report both orally and in writing.

SYNOPSIS
Topics covered in this course are overview of Embedded System, characteristics & application areas, introduction to assembler-level software and high level language programming for Embedded Systems, introduction to Embedded System hardware, application-level embedded system design concepts in computer engineering. Student of this subject develop practical and theoretical skills for the modern software industry to build innovative system using embedded technology. Students will develop essential skills required to create clever system which drives intelligent robots and more.

REFERENCES
LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Analysis critically the design problems of the CMOS VTC for switching threshold, $V_{OH}$, $V_{OL}$, $V_{IH}$, $V_{IL}$, and noise margins.
2. Apply techniques, such as Euler paths and stick diagrams to optimize the layout of CMOS logic circuits.
3. Display how to use CMOS gates in several logic functions (e.g. multiplexers, transmission gate-based XOR gates).
4. Evaluate the CMOS logic gates design using various methods.
5. Complete tasks and assignment effectively as individual or in a group

SYNOPSIS
This subject will discuss on Electronic properties of materials: Solid-state materials, Electronics and holes. Doping, acceptors and donors, p- and n-type material. Conductivity and resistivity. Drift and diffusion currents, mobility and diffusion. Function of the basic inverter structure: Connectivity, layout, and basic functionality of a CMOS inverter. The CMOS inverter voltage transfer characteristic (VTC), Analysis of the CMOS VTC for switching threshold, $V_{OH}$, $V_{OL}$, $V_{IH}$, $V_{IL}$, and noise margins, Effect of changing the inverter configuration on the CMOS VTC. Connectivity and basic functionality of a Bipolar ECL inverter, Connectivity and basic functionality of a Bipolar TTL inverter, Combinational logic structures: Basic CMOS gate design. Layout techniques for combinational logic structures, Transistor sizing for complex CMOS logic devices, Transmission gates, Architectural building blocks (multiplexers, decoders, adders, counters, multipliers); Sequential logic structures, etc.

REFERENCES

REFERENCES
LEARNING OUTCOMES
Upon completion of this subject, students should be able to:
1. Describe the basic theory in two dimensional signal processing.
2. Demonstrate the concepts in 2-Dimensional filtering and image enhancing.
3. Analyze the feature extractions and pattern classifications.
4. Compare and evaluate the suitable methods, theory or equation in order to understand concept image compression and JPEG2000.
5. Complete tasks and assignment effectively as individual or in group.
6. Manipulate and compare experimental data to solve various problems

SYNOPSIS
This subject will discuss on Introduction to Image Processing, Two-dimensional signals and systems, Sampling in two dimensions, Two-dimensional discrete transforms, Introduction to 2-D filter design, Multi-resolution image processing, Image Estimation and Restoration, Morphological image processing, Edge detection, Fundamentals of image compression, Video processing and compression. After learning this subject, students should be able to use point operations, perform basic image filtering, implement multi-resolution and image classification techniques, video filters, and basic algorithms for image and video compression.

REFERENCES
LEARNING OUTCOME
At the end of the subject, students should be able to:
1. Show technical competencies and skills gained throughout their internship.
2. Prepare a report on the industrial field daily activities in the log book systematically.
3. Communicate effectively with staff, colleagues and other personnel.
4. Practice professional ethics in accordance with industry rules and regulations.

SYNOPSIS
All students are required to undergo industrial training as part of their curriculum to complete four (4) years course for the Bachelor of Engineering Technology. The duration of training is 24 weeks and it will be taken place at the end of the course (semester 8). The students are expected to gain knowledge and enhance their technical skills within industrial environment relevant to their field of study.

REFERENCES

LEARNING OUTCOME
At the end of the subject, students should be able to:
1. Produce industrial training report
2. Present report orally on working experience

SYNOPSIS
All students are required to undergo industrial training as part of their curriculum to complete four (4) years course for the Bachelor of Engineering Technology. The duration of training is 24 weeks and it will be taken place at the end of the course (semester 8). The students are expected to gain knowledge and enhance their technical skills within industrial environment relevant to their field of study.

PRE-REQUISITE
Student required to pass Industrial Training BETU 4786 in order to pass Industrial training report.

REFERENCES