



KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI



STUDENT HANDBOOK

DIPLOMA IN WOOD BASED TECHNOLOGY

**CURRICULUM
2024**



STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)

Authors

***ZULLHYZRIFEE ISHRAF BIN
ZULKIFLY
NURIN HAFILAH BINTI
HAMZAH
RAFIDAH FARAH HANIM
BINTI ABD RAZAK***

***Civil Engineering Department
Politeknik Sultan Salahuddin
Abdul Aziz Shah***

Special project by:

**Politeknik Sultan Salahuddin Abdul Aziz Shah,
Persiaran Usahawan, Seksyen U1,
40150 Shah Alam,
Selangor Darul Ehsan**

Tel: +603-5163 4000

Faks: +603-5569 1903

Email: webmasterpsa@psa.edu.my

© Politeknik Sultan Salahuddin Abdul Aziz Shah

All right reserved. All content of text, graphics and related documents contained in this book are the full property of the Civil Engineering Department or informants from the Department of Polytechnic Studies and Community College, Ministry of Higher Education are subject to copyright and intellectual property rights protection. No part of this publication may reproduce or transmitted in any form by any means, electronics or mechanical including photocopy, recording or any information storage and retrieval system, without permission in writing from the authors.

STUDENT HANDBOOK DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)

POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

eISBN No : 978-629-7667-56-2

First Published in 2025 by:

UNIT PENERBITAN

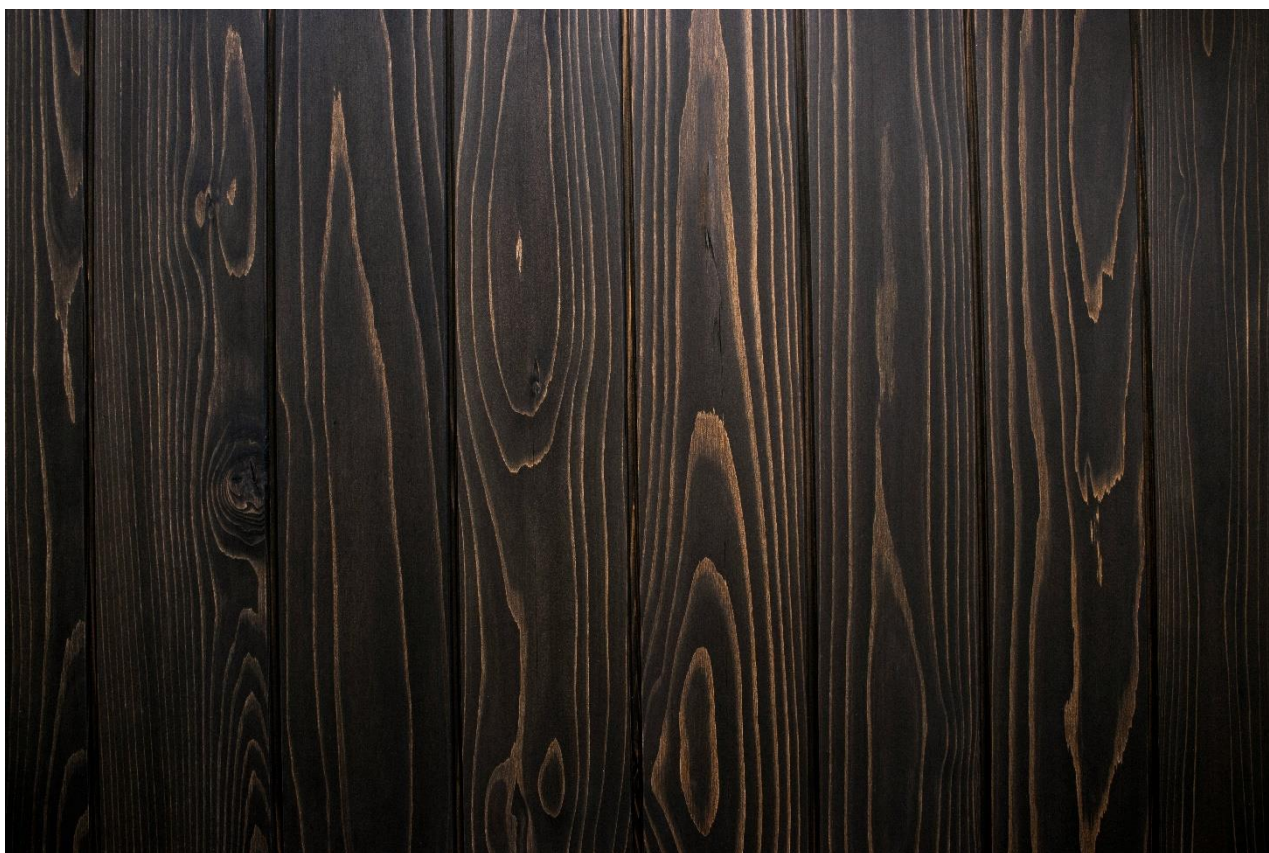
Politeknik Sultan Salahuddin Abdul Aziz Shah
Persiaran Usahawan,
Seksyen U1,
40150 Shah Alam
Selangor

Telephone No. : 03 5163 4000

Fax No. : 03 5569 1903

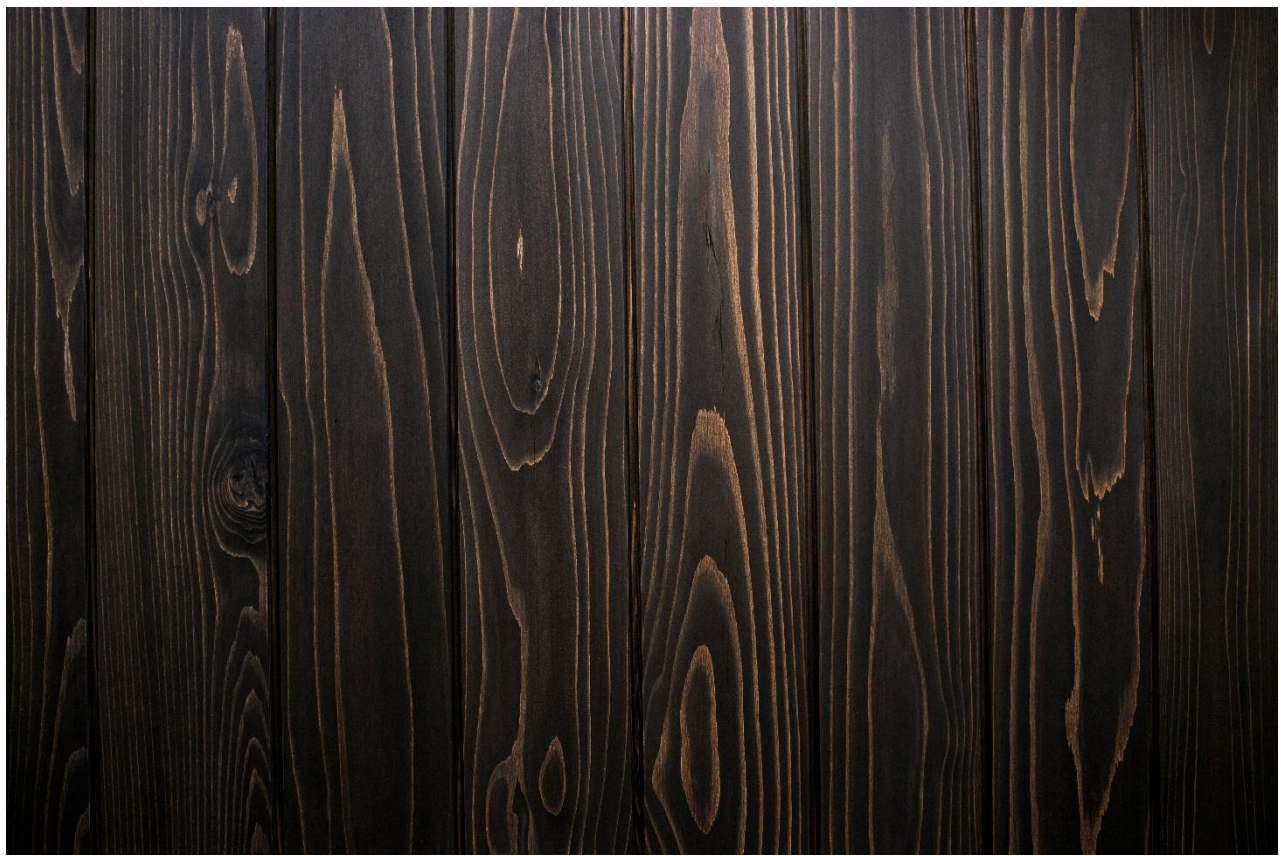
e ISBN 978-629-7667-56-2





PREFACE

This handbook provides a comprehensive overview of the Diploma in Wood-Based Technology (DBK), outlining its programme structure and curriculum. It serves as an essential guide for current students and offers valuable insight for prospective students, lecturers, and the public interested in this field of study.



ACKNOWLEDGEMENT

Assalamualaikum w.b.t and peace be upon you,

Grateful to Allah because with His grace we have completed this Student Handbook for the Diploma in Wood Based Technology (DBK) Programme. On this occasion, we would like to thank all the DBK's team from Polytechnic of Sultan Salahuddin Abdul Aziz Shah (PSSAAS) who were involved throughout the success of this task which provided a lot of relevant knowledge sharing in some of the contents in this Student Handbook.

Finally, appreciation was also given to the Jabatan Kejuruteraan Awam, PSSAAS which has provided good support directly or indirectly to the production of this handbook. We were hoping that this handbook could be referred to as well as beneficial to building services engineering students.

CONTENTS

	01
INTRODUCTION	
	02
VISION, MISSION & EDUCATIONAL GOAL	
	03
QUALITY OBJECTIVES	
	04
OUTCOME BASED EDUCATION (OBE)	
	08
STUDENT'S GENERAL RULES	
	09
PROGRAMME DURATION	
	10
ENTRY REQUIREMENT	
	11
CREDIT TRANSFER AND COURSE EXEMPTION (CTCE)	
	12
STUDENT'S REGISTRATION	
	14
COURSE REGISTRATION	
	15
PROGRAMME INFORMATION	
	20
PROGRAMME STRUCTURE	
	28
SYNOPSIS OF COURSE CONTENTS	
	38
GRADING SYSTEM & SCHEME	
	40
FACILITIES FOR STUDENTS	

The background of the cover features a dark, vertical wood grain texture. Overlaid on this are several geometric shapes: a large white rectangle in the top-left corner, a grey rectangle in the bottom-left corner, and a horizontal grey band across the middle. The title 'INTRODUCTION' is printed in a bold, dark green font within the middle grey band.

INTRODUCTION

STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)

INTRODUCTION

The Civil Engineering Department (JKA) at Politeknik Sultan Salahuddin Abdul Aziz Shah prepares students to become skilled and competitive semi-professionals for the industry.

At JKA, students learn theoretical knowledge with hands-on learning covering three main fields: Civil Engineering, Building Services Engineering, and Wood-Based Technology.

To support this practical approach, students have access to dedicated facilities, including wood workshops, wood science laboratories, and computer labs.

In the Civil Engineering Department (JKA), there are three programmes offered which are:

Diploma in Civil Engineering (DKA)

Diploma in Building Services Engineering (DPB)

Diploma in Wood Based Technology (DBK)

The background of the cover is a black and white photograph of horizontal wooden planks. Overlaid on this are several geometric shapes: a large white rectangle on the left, a grey rectangle below it, and a large grey rectangle in the center-right. The title text is centered within the central grey rectangle.

VISION, MISSION & EDUCATIONAL GOAL

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**



VISSION

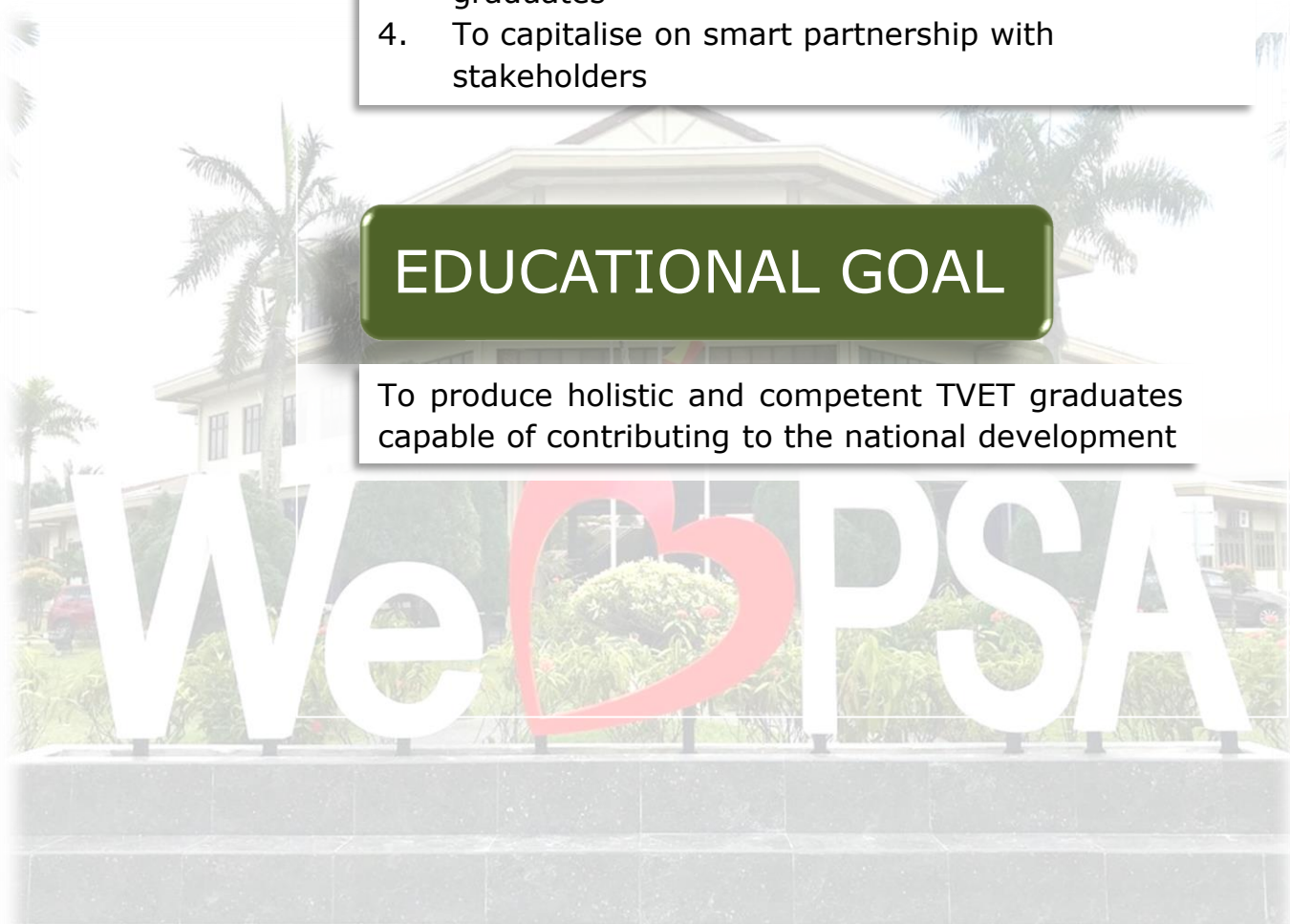
To be the Leading-Edge TVET Institution

MISSION

1. To provide wide access to quality and recognized TVET programmes
2. To empower communities through research, innovation and life-long learning
3. To develop holistic, entrepreneurial and balanced graduates
4. To capitalise on smart partnership with stakeholders

EDUCATIONAL GOAL

To produce holistic and competent TVET graduates capable of contributing to the national development

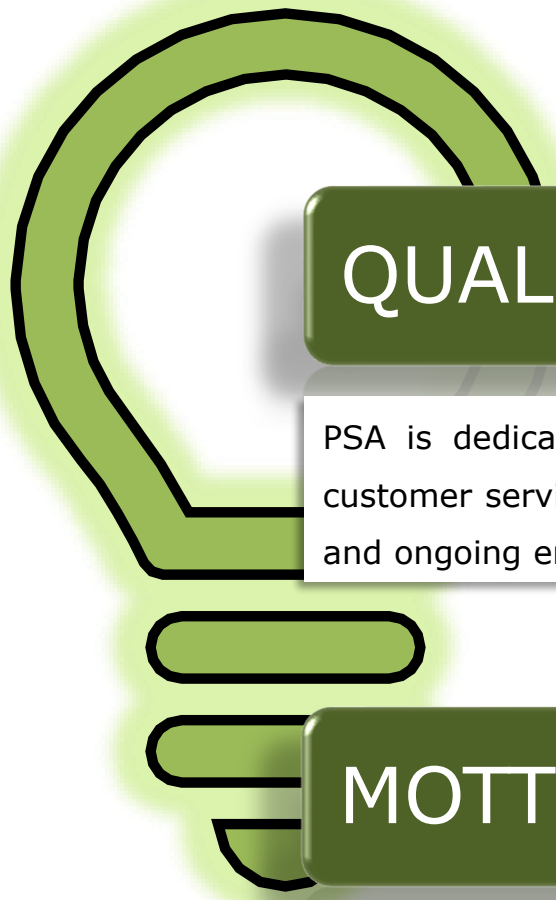


We Love PSA

The background of the cover features a detailed wood grain texture. Overlaid on this are several geometric shapes: a large light gray square in the upper left, a medium gray square below it, and a dark gray square to the left of the central text area. The central text is set against a semi-transparent gray rectangle.

QUALITY POLICY, MOTTO & TAGLINE

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**



QUALITY POLICY

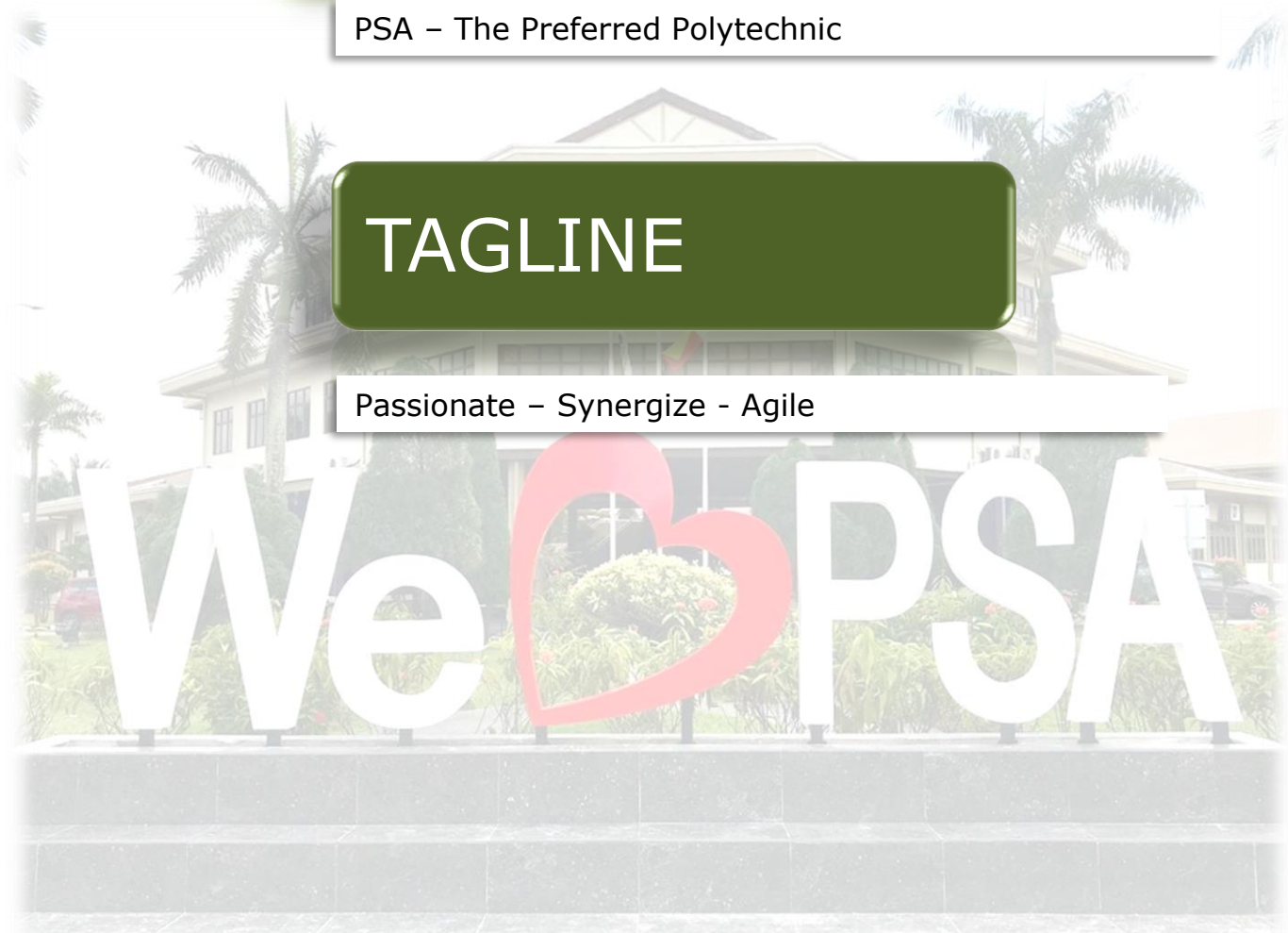
PSA is dedicated to provide effective and efficient customer service by means of teamwork, evaluation, and ongoing enhancement

MOTTO

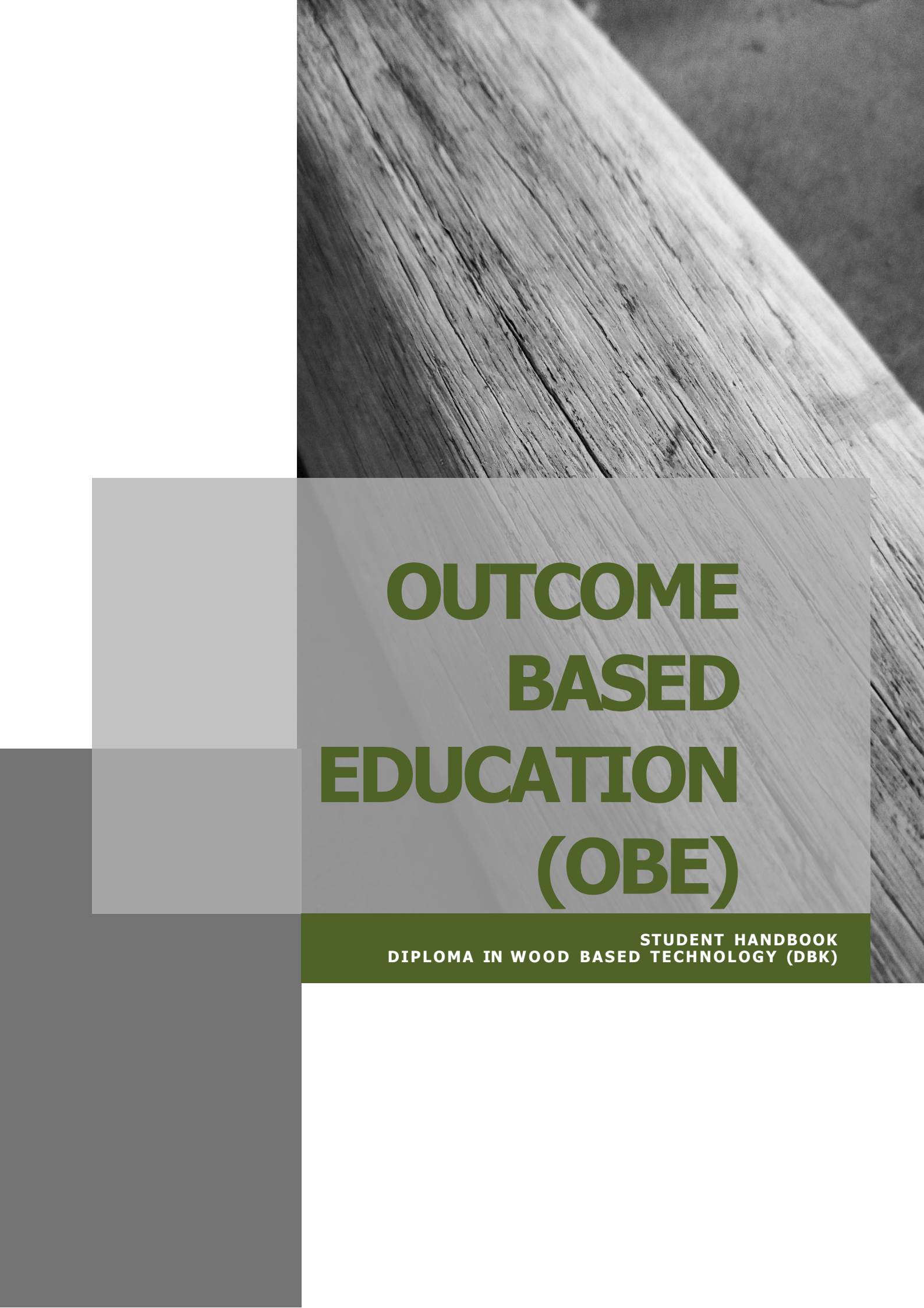
PSA – The Preferred Polytechnic

TAGLINE

Passionate – Synergize – Agile



We ♥ PSA



OUTCOME BASED EDUCATION (OBE)

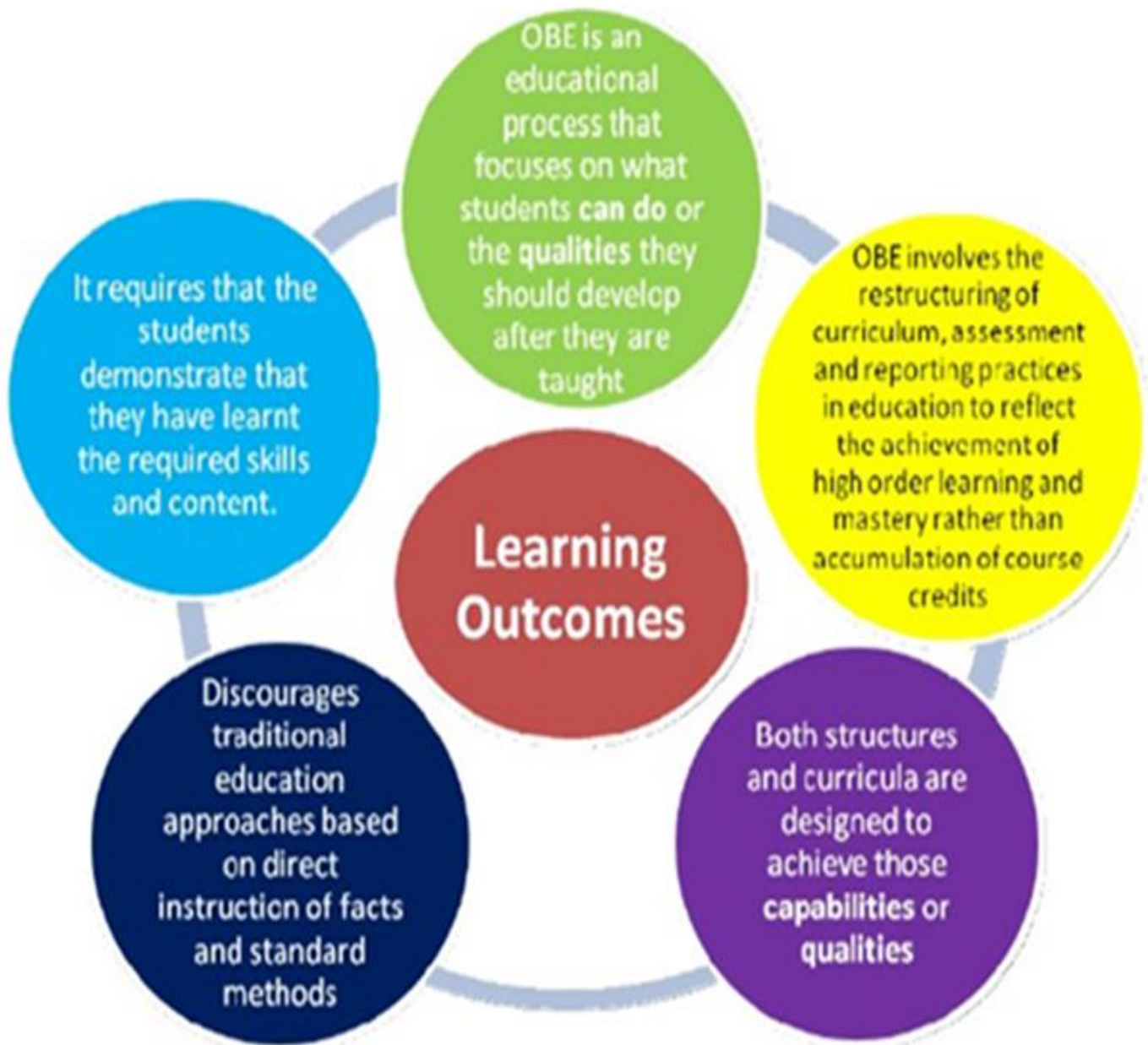
**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

Outcome-based education or outcomes-based education (OBE) is an educational theory that bases each part of an educational system around goals (outcomes)

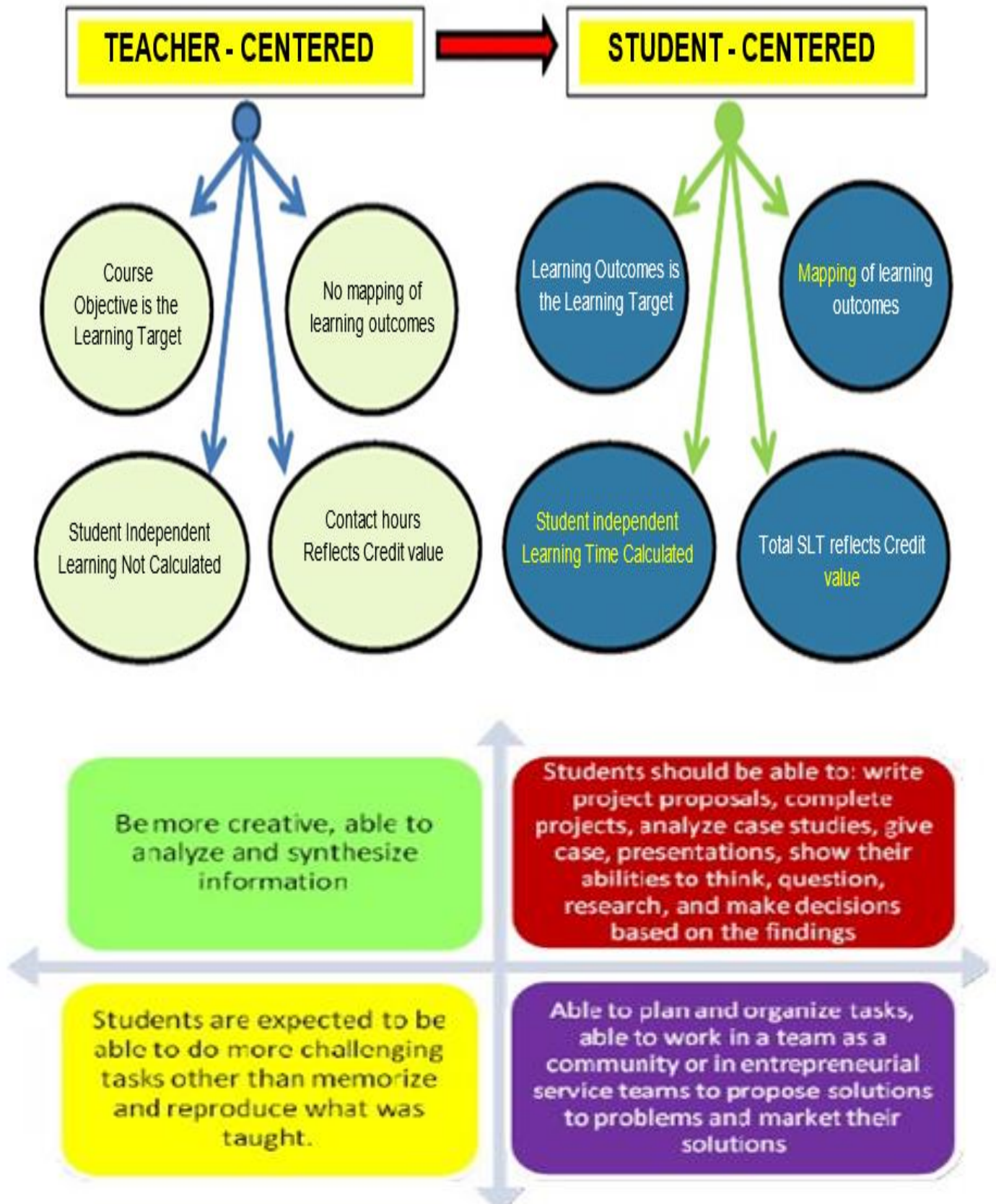
Outcome-based education (OBE) is an educational model for students to demonstrate their knowledge and able to perform according to the required outcomes. It is a student centered approach that focuses on students' learning. It starts with a clear picture of what students should know, what they should be able to do, and what desirable attitudes and values needed to organize the curriculum, instruction, and assessment to ensure an ultimate learning. Thus, OBE involves the restructuring of Curriculum and assessment that reflects achievement of high learning order and mastery learning.

OBE helps students to be aware of what they should learn, aware of what they are learning and the control over their own learning. It leads to successful student learning and encourages lecturers to be well prepared. It also provides students with appropriate, purposeful learning experiences and opportunities for students to develop originality, self-motivation and independence while acquiring useful knowledge and skills. The OBE alignment can be referred from the figure below.

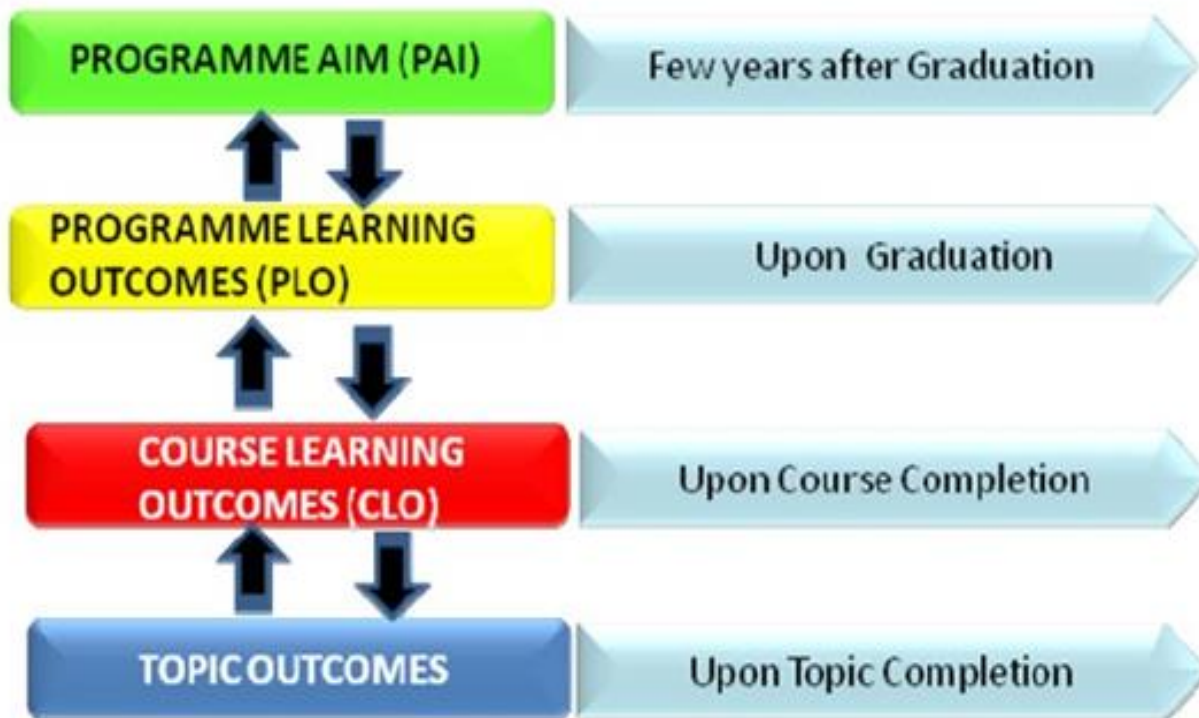
WHAT IS OUTCOME-BASED EDUCATION [OBE]



HOW DOES OBE AFFECT TEACHING-LEARNING

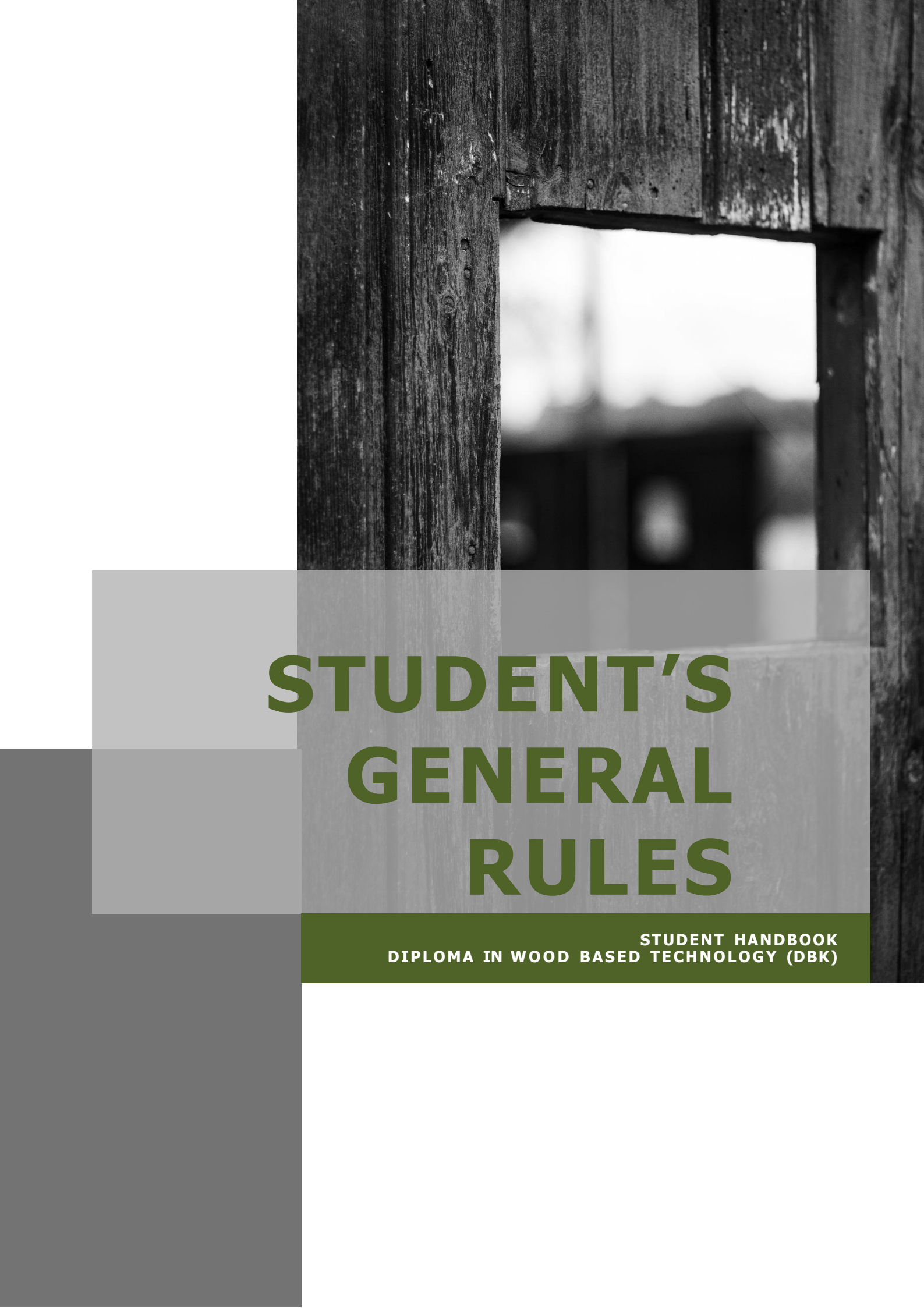


DIFFERENT LEVELS OF OBE



IMPORTANCE OF OBE TO STUDENT

- Be able to select institutions, programs, and courses based on clearly stated learning objectives.
- Give students the opportunity to choose what they want to study and how they want to learn it.
- Provide enough time to achieve ability and fluency in lessons (SLT).
- Enable to transfer credit and transfer to another institution recognized with the OBE syllabus.



STUDENT'S GENERAL RULES

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

All Polytechnic students are subjected to the General Rules for the duration of their studies.
(Please refer to the “Undang-Undang Malaysia Akta 174-Akta Institusi-Institusi Pelajaran (Tatatertib)1976”)



The background of the cover is a close-up photograph of a wooden surface, showing a mix of light and dark wood grain textures. Two dark, circular knots are visible in the upper left. A diagonal line runs from the top right towards the center. Overlaid on the left side are two semi-transparent geometric shapes: a light grey rectangle and a darker grey rectangle, both with sharp corners. The title 'PROGRAMME DURATION' is printed in a large, bold, dark green sans-serif font, centered horizontally and partially overlaid by the grey shapes.

PROGRAMME DURATION

STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)

PROGRAMME DURATION

Duration of study:

Programme	Period	Semester**
Diploma in Wood Based-Technology	3 years	Minimum six (6) semester Maximum nine (9) semester

** 1 year consists of 2 semesters

** 1 semester consists of 14 weeks of teaching & learning week



ENTRY REQUIREMENT

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

ENTRY REQUIREMENT

SPM Graduate

1. Malaysian citizen
2. Pass Sijil Pelajaran Malaysia (SPM) or equivalent:
 - i. Pass History (SPM 2013 and above)
 - ii. Pass Malay language (Bahasa Melayu)
 - iii. Pass Mathematics
 - iv. Three (3) honours in subject that has not been taken into account
3. Candidates do not have visual (blind, color blind), hearing, speech, physical or learning disabilities that make practical work difficult.

Graduates other than SPM

1. Malaysian citizen
2. Passed certificate-level studies recognized by MQA/SKM Level 3 in a related field

OR

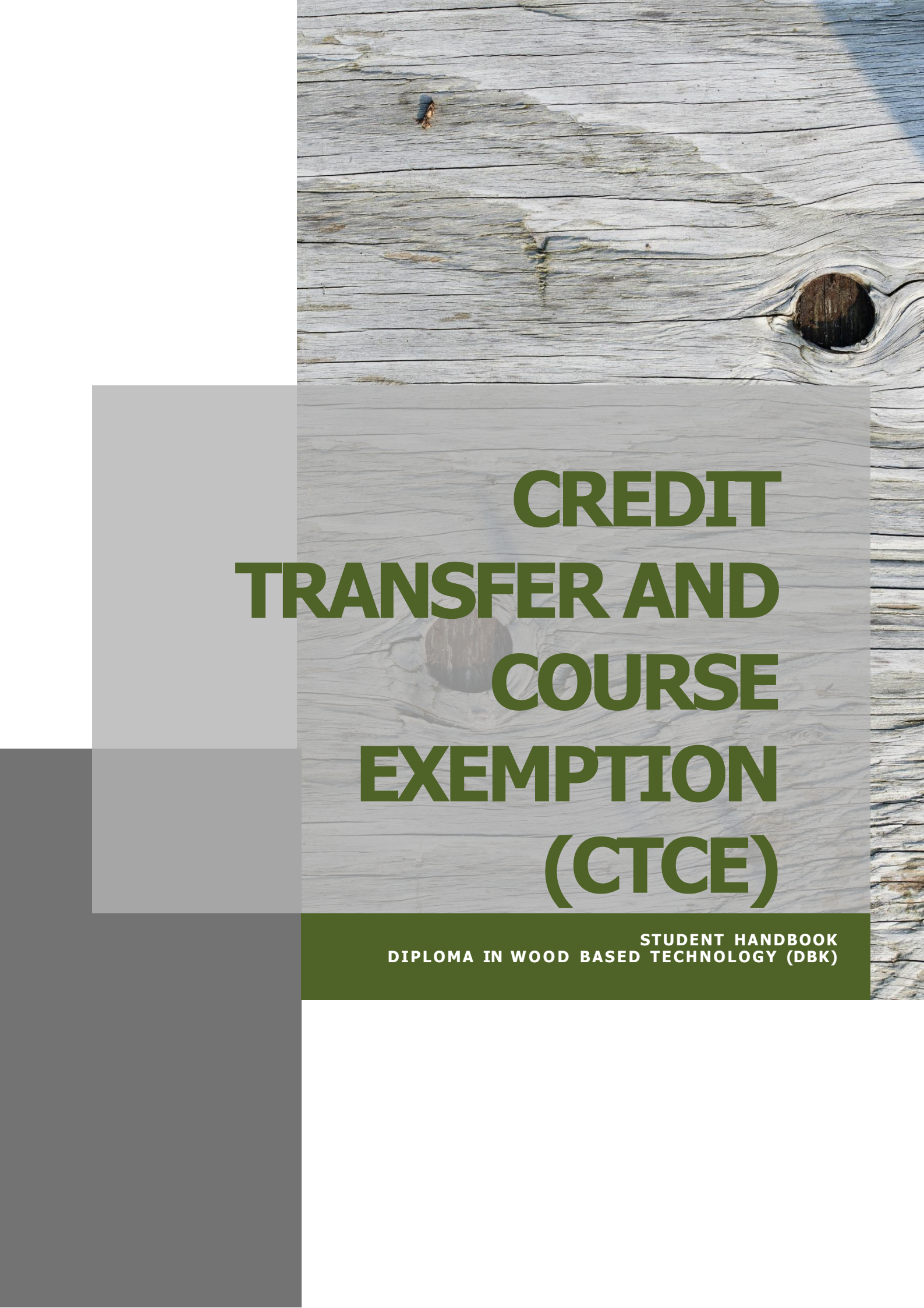
3. Have an APEL (Accreditation of Prior Experiential Learning) certificate from MQA for entry to a diploma (Level 4) and working experience in a related field.
4. Candidates do not have visual (blind, color blind), hearing, speech, physical or learning disabilities that make practical work difficult.

*For list of fields (SKM, Level 3), please visit:

<https://ambilan.my poly cc.edu.my /portalbpp2/index.asppg=program&kat=d&id=DA003>

APEL Graduate

1. Malaysian citizen
2. Have an APEL (Accreditation of Prior Experiential Learning) certificate from MQA for entry to a diploma (Level 4)
3. Have working experience in a related field



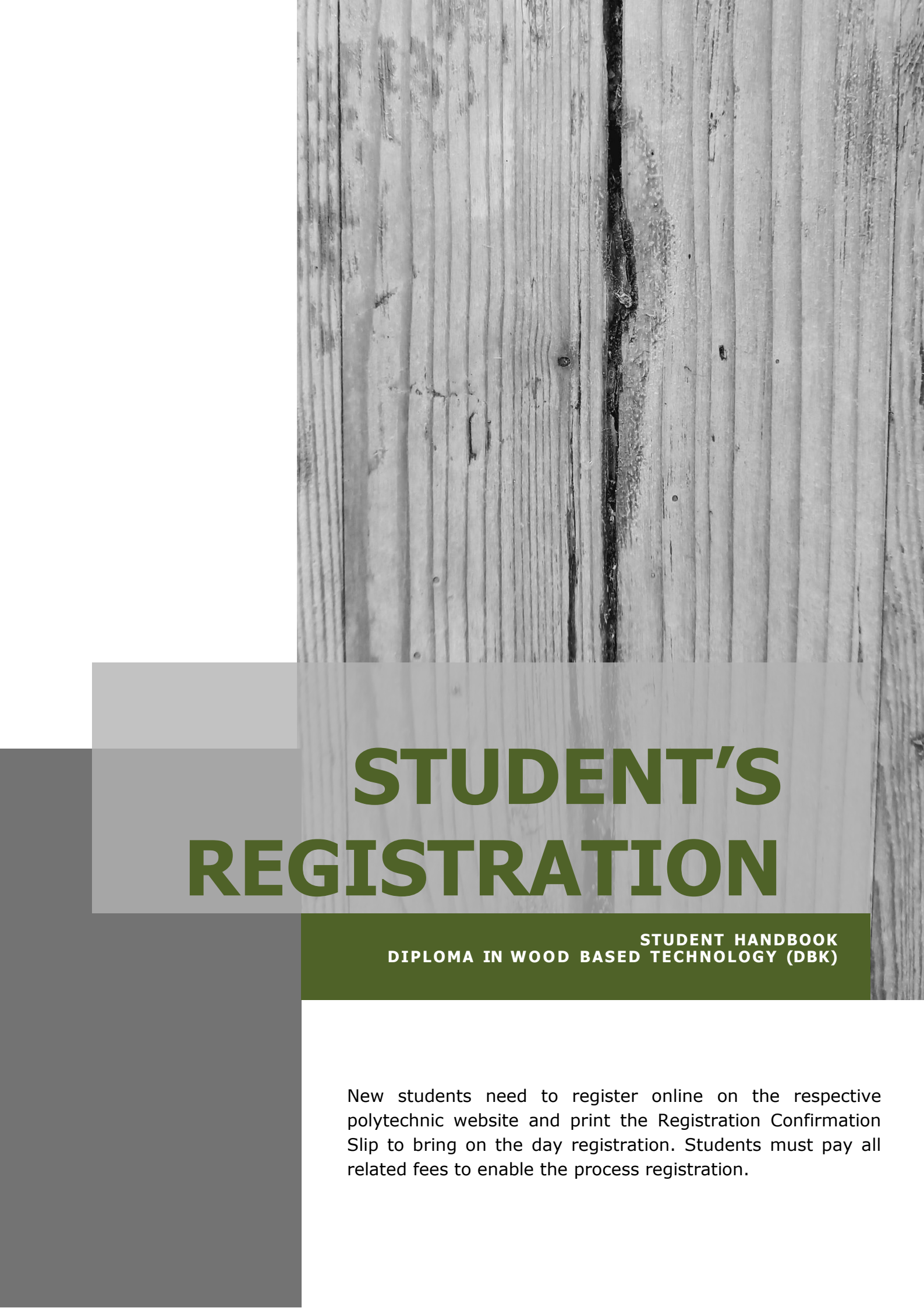
CREDIT TRANSFER AND COURSE EXEMPTION (CTCE)

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

CREDIT TRANSFER AND COURSE EXEMPTION (CTCE)

Students can apply for credit transfer and course exemption within three (3) weeks from the start of lecture for the first semester if they meet the requirement stipulated in the Polytechnic Educational Programme Credit Transfer and Course Exemption Guideline.

<https://www.mypolycc.edu.my/index.php/muat-turun/garis-panduan-c/bahagian-peperiksaan-dan-penilaian>

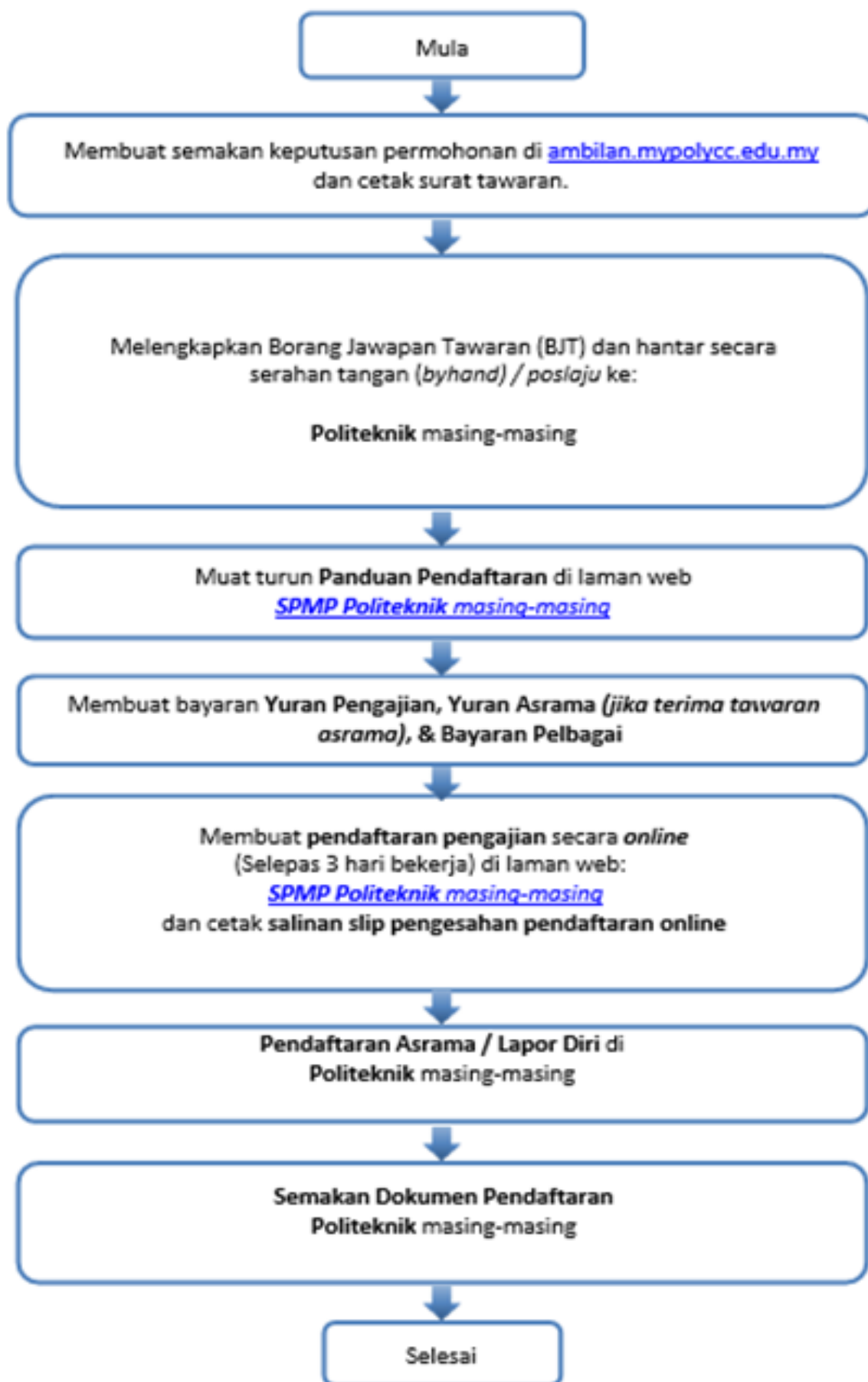
The background of the page features a vertical wood grain texture. On the left side, there are two overlapping geometric shapes: a light gray square and a darker gray square. A horizontal band with a wood texture pattern runs across the middle of the page, containing the main title. Below this band is a solid dark green rectangular block containing the subtitle.

STUDENT'S REGISTRATION

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

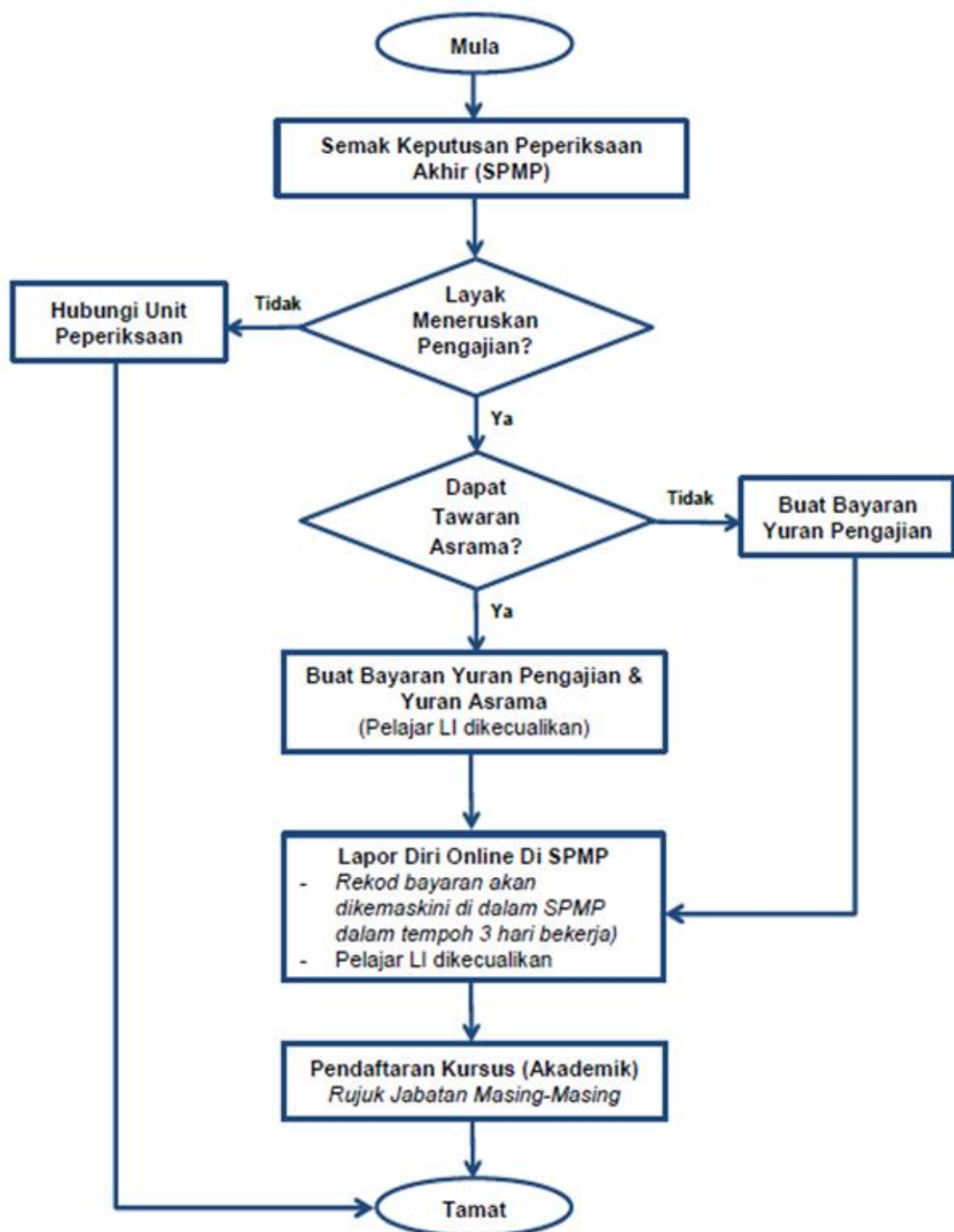
New students need to register online on the respective polytechnic website and print the Registration Confirmation Slip to bring on the day registration. Students must pay all related fees to enable the process registration.

Registration New Student



Registration Senior Student

Senior students must register online before starting studies at the polytechnic in the new semester. Online registration method need to refer to the registration system handbook used. Students need to submit the Online Registration Confirmation Slip to the academic advisor.



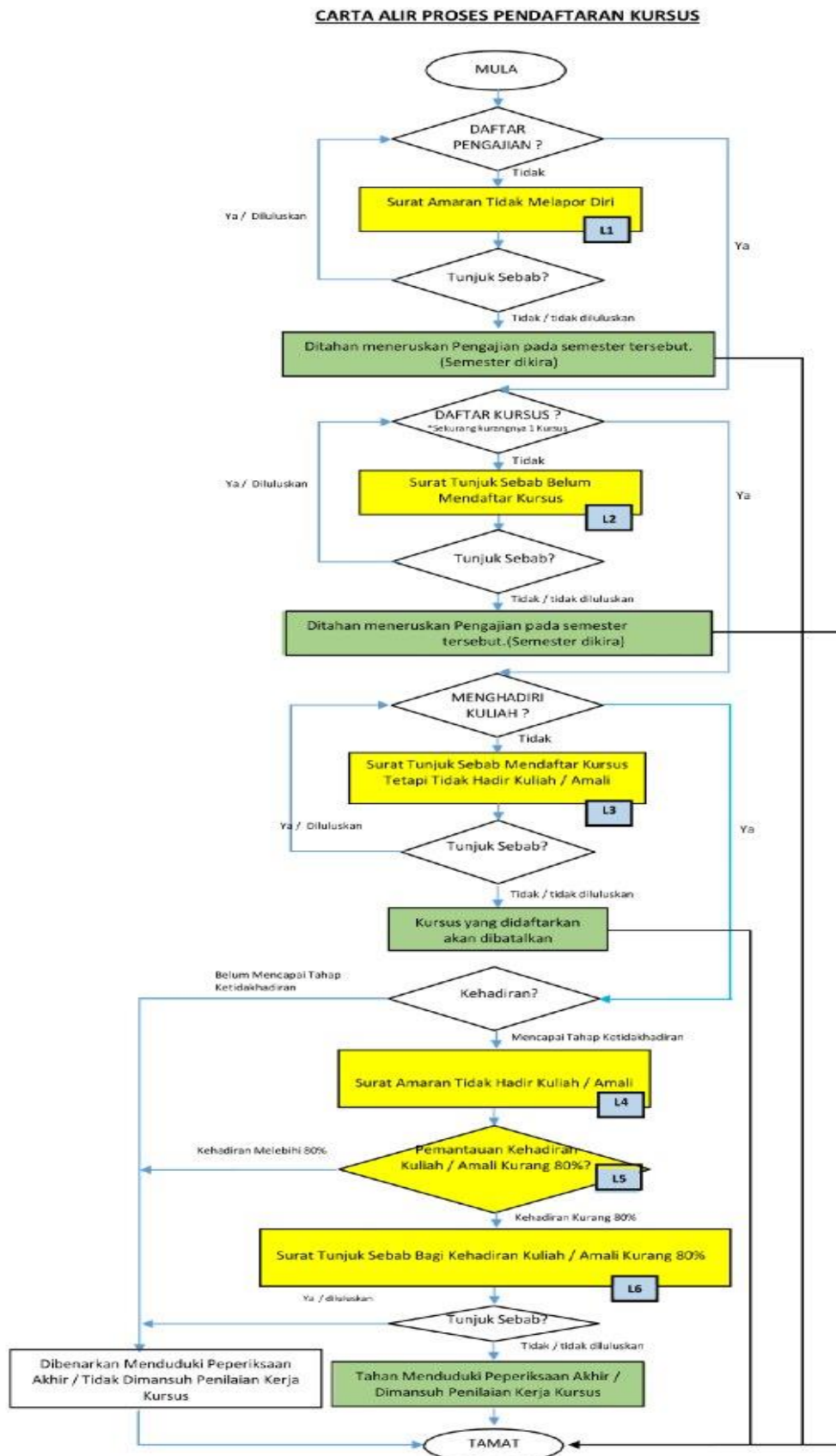


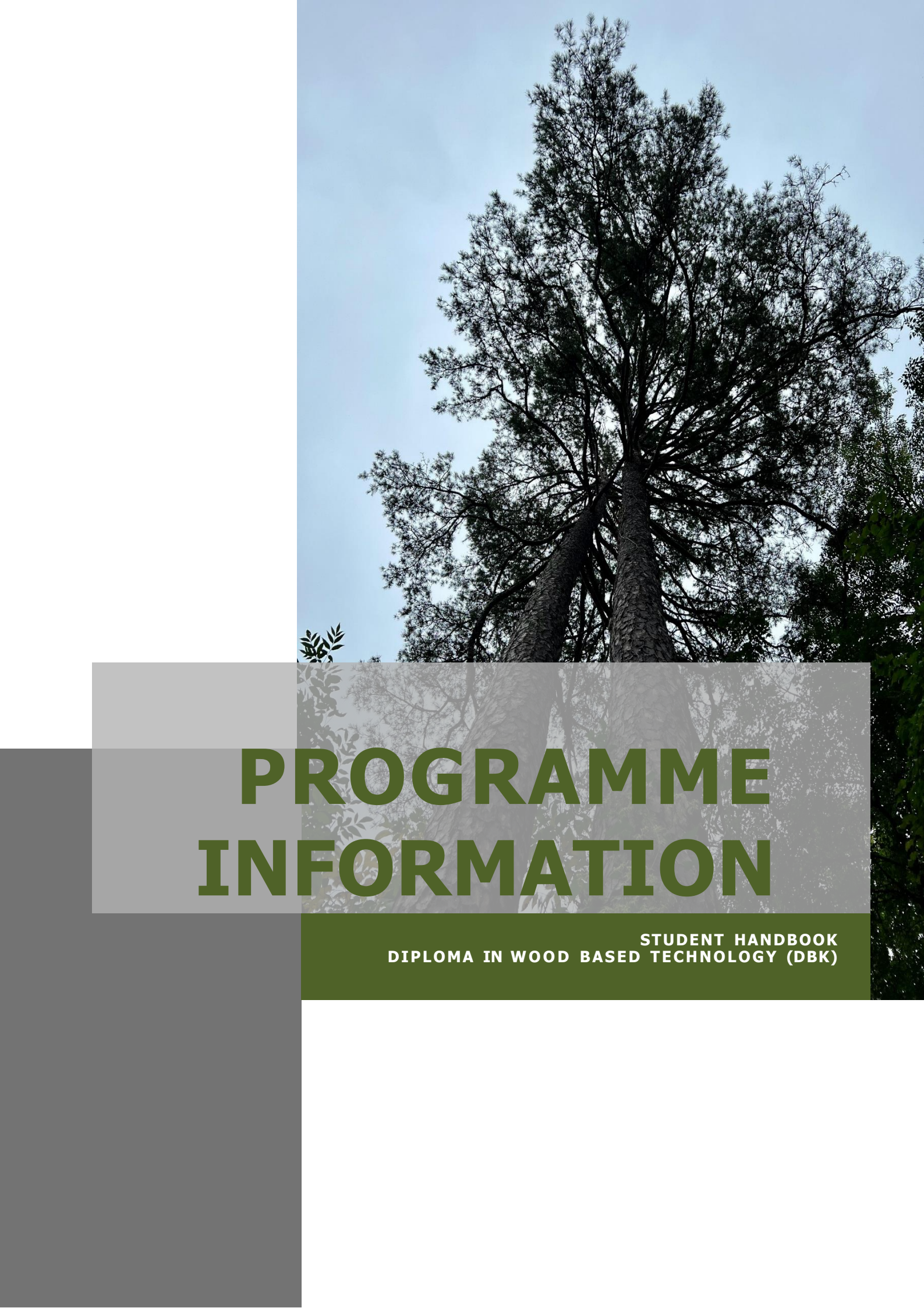
COURSE REGISTRATION

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

Courses registration will be conducted by the Academic Advisor after the online students' registration. Students are required to register for courses following the program structure. Students can drop any courses before the 4th week of the semester. Total maximum credit hour allowed to be taken by the students every semester is not more than 18 credit hours. However, there are some exceptions in where students are allowed to register more than the 18 credit hours in a semester with the approval from the Head of Department.

STUDENT COURSE REGISTRATION PROCESS FLOWCHART





PROGRAMME INFORMATION

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

INTRODUCTION

Wood industry has indicated an encouraging performance and has been among the top important main commodity sector in Malaysia. This sector also gives a wide range of job opportunities in various categories. Diploma in Wood Based Technology is highly anticipated to produce sub-professional graduates to contribute in wood industry.

This program will prepare students with knowledge of product design, current and future technology in wood industry, wood science, wood engineering and management. This programme also considers the aspect of human resource development as one of the critical elements that need to be emphasize, to enhance wood industry productivity, efficiency, effectiveness, quality and value added product.

Students are prepared for their future role in the economy by building a solid foundation in technical knowledge and the necessary skills, related to wood-based technology.



SYNOPSIS

Diploma in Wood Based Technology programme was developed to expose the students with basic knowledge and practical skill related in Wood Based Technology. The courses will be carried out in both theoretical and practical method such as lectures, practical in laboratories or workshops, industrial visit and practical training at firms.

The scope of the programme covers Product Design and Manufacturing, Wood Sciences, Wood Engineering and Management knowledge. The graduates from this programme will have potentials to work in both private and government sector.

The knowledge and skills coverage provide graduates with a wider range of employment opportunities. In addition, they will also have opportunities to further their studies in other higher learning institutions.

JOB PROSPECT

Wood Based Technology programme can also be applied to a broad range of careers. The knowledge and skills that the students acquire from this programme will enable them to participate in the job market such as:

- a. Designer Maker
- b. Entrepreneur
- c. Product Designer
- d. Quality Supervisor
- e. Assistant Research Officer
- f. Supervisor
- g. Timber Grader
- h. Assistant Marketing Officer
- i. Laboratory Assistant
- j. Government Regulatory Bodies
- k. Education and Training Officer

PROGRAMME AIM

This programme believes that every individual has potential to foster talent that can be developed through a structured educational approach to nurture creative and competent wood technologist for product development in wood-based technology to support the sustainable development of the wood industry in Malaysia.



PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

Diploma in Wood Based Technology programme shall produce balance TVET graduates who are:

- PEO 1** knowledgeable and competent in the field of wood-based technology innovatively and creatively in line with industry requirements, including the use of digital skills numerical techniques
- PEO 2** able to demonstrate effective communication, interpersonal skills and leadership with responsibility in an organization
- PEO 3** capable to solve problems in wood-based technology ethically through sustainable approach
- PEO 4** able to demonstrate positive character, entrepreneurship skill and lifelong learning for successful career advancement

PROGRAMME LEARNING OUTCOMES (PLO)

Upon completion the programme, students should be able to:

PLO1

possess relevant knowledge of technology fundamentals on well-defined procedures and practices in the field of study

PLO2

propose and employ current tools and techniques to resolve well-defined problems

PLO3

establish investigative and significant thinking abilities to resolve well-defined problems in the field of study

PLO4

communicate and explain clearly several viewpoints for social, academic and professional purposes

PLO5

illustrate the understanding of the issues related to the society and the subsequent responsibilities appropriate to the extended well-defined technology practices

PROGRAMME LEARNING OUTCOMES (PLO)

Upon completion the programme, students should be able to:

PLO6

acknowledge the requirement of career establishment and to employ independent continuing learning in specialized technical knowledge

PLO7

illustrate consciousness of management and technopreneurship routine in real perspective

PLO8

illustrate ethical awareness and professionalism

PLO9

illustrate leadership character and work efficiently in diverse technical teams

•

A close-up photograph of several red and black spotted beetles, likely bark beetles, crawling on the rough, textured bark of a tree. The beetles are bright red with distinct black spots and markings. The bark is dark and deeply grooved.

PROGRAMME STRUCTURE

STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)

PROGRAMME STRUCTURE

SEMESTER 1		
COURSE CODE	COURSE NAMA	CREDIT HOUR
MPU21072	Penghayatan Etika dan Peradaban	2
DUE10112	Communicative English 1	2
MPU24031	Sukan 1	1
MPU24041	Kelab/Persatuan 1	
MPU24XX1	Unit Beruniform 1	
DUW10032	Occupational, Safety and Health	2
DBS10012	Engineering Science	2
DCW10273	Wood-working and Machinery	3
DCW10283	Dendrology	3
DCW10293	Wood Anatomy and Physical Properties	3
Year 1 Semester 1 Total Credit		18

PROGRAMME STRUCTURE

SEMESTER 2		
COURSE CODE	COURSE NAMA	CREDIT HOUR
MPU23052	Sains, Teknologi dan Kejuruteraan Dalam Islam*	2
MPU23172	Nilai Masyarakat Malaysia**	
MPU24051	Sukan 2***	1
MPU24061	Kelab/Persatuan 2***	
MPU24XX1	Unit Beruniform 2***	
DBC20022	Computer Application	2
DCW20303	Wood Chemical Properties	3
DCW20312	Wood Preservation and Drying	2
DCW20322	Wood Mechanic Structure 1	2
DCW20333	Computer Aided Design and Drafting	3
DCW20342	Principles of Management	2
Year 1 Semester 2 Total Credit		17

***Prerequisite / co-requisite

Sukan 1

Kelab/Persatuan 1

Unit Beruniform 1

*For Muslim students

** For non-Muslim students

PROGRAMME STRUCTURE

SEMESTER 3		
COURSE CODE	COURSE NAMA	CREDIT HOUR
DUE30122	Communicative English 2***	2
DCW30352	Statistics	2
DCW30363	Product Design and Innovation	3
DCW30373	Wood Composite Technology	3
DCW30383	CNC Machining	3
DCW30393	Product Making	3
DCW30402	Wood Mechanic Structure 2***	2
Year 2 Semester 3 Total Credit		18

***Prerequisite / co-requisite

Communicative English 2

Wood Mechanic Structure 1

PROGRAMME STRUCTURE

SEMESTER 4		
COURSE CODE	COURSE NAMA	CREDIT HOUR
DUU10072	Entrepreneurship	2
DCW40413	Wood Finishing and Adhesive	3
DCW40423	Pulp and Paper Technology	3
DCW40433	Project Proposal	3
DCW40442	Production Management	2
DCW40452	Engineered Wood Product	2
DCW40462	Forest Management	2
DCW40472	Building Information Modeling	
Year 2 Semester 4 Total Credit		17

PROGRAMME STRUCTURE

SEMESTER 5		
COURSE CODE	COURSE NAMA	CREDIT HOUR
DUE50132	Communicative English 3***	2
MPU22071	Kursus Integriti dan Anti Rasuah	1
DCW50482	Timber Trade	2
DCW50493	Timber Structure Design	3
DCW50503	Wood Based Technology Project***	3
DCW50512	Fundamentals of Marketing	2
DCW50522	Pollution Management & Control	
DCW50532	Event Management	
Year 3 Semester 5 Total Credit		13

***Prerequisite / co-requisite

Communicative English 2

Project Proposal

PROGRAMME STRUCTURE

SEMESTER 6		
COURSE CODE	COURSE NAMA	CREDIT HOUR
DUT60089	Industrial Training	9
Year 3 Semester 6 Total Credit		9



ELECTIVES		
COURSE CODE	COURSE NAMA	CREDIT HOUR
DCW40462	Forest Management	2
DCW40472	Building Information Modeling	
DCW50512	Fundamentals of Marketing	2
DCW50522	Pollution Management & Control	
DCW50532	Event Management	
FREE ELECTIVES		
COURSE CODE	COURSE NAMA	CREDIT HOUR
DUD10012	Design Thinking	2

PROGRAMME STRUCTURE

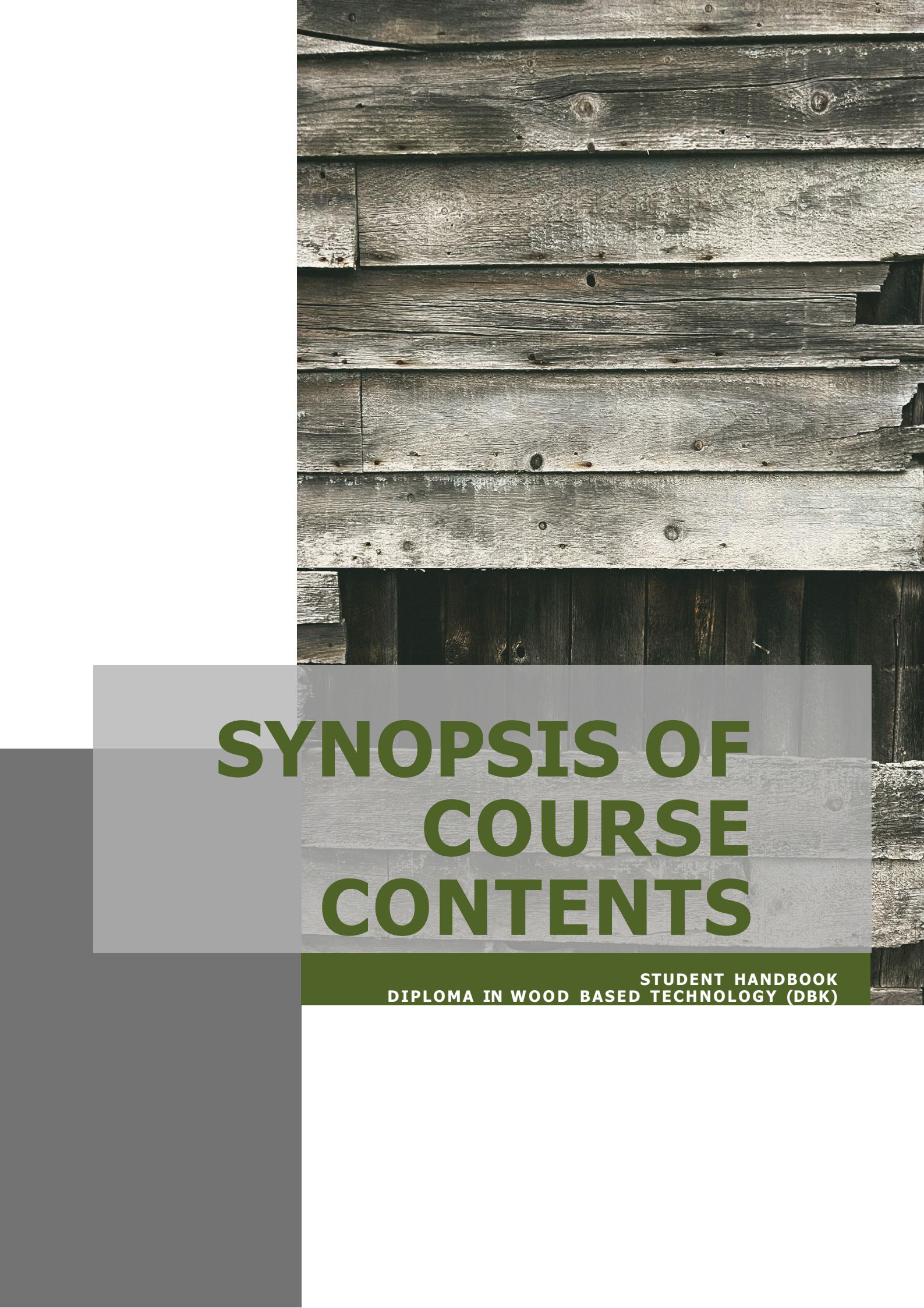
COMPONENT	CREDIT HOURS	%
i. General	19	21%
ii. Technology	64	70%
iii. Technology (Industrial Training)	9	10%
TOTAL OVERALL CREDITS	92	100%

TECHNOLOGY COMPONENT	SLT	%
i. Lecture (Theory Component)	490	28%
ii. Practical (Practical Component)	1158	65%
iii. Tutorial (Theory Component)	126	7%
TOTAL CONTACT HOURS	1774	100%

PROGRAMME STRUCTURE

Notes:

1. The minimum and maximum credit value of Electives must be referred to the programme standard or professional bodies.
2. ^a**Free Electives** are courses which are not included in any programme structure but if taken, will contribute towards students' CGPA, provided that institutions adhere to the Jabatan Pendidikan Politeknik & Kolej Komuniti Free Electives Guidelines.
3. ^b**MPU22212 Bahasa Kebangsaan A** is **COMPULSORY** for students who did not attain credit in Bahasa Melayu at Sijil Pelajaran Malaysia (SPM) level and will contribute to students' CGPA.
4. Co-curriculum pathways:
 - a. Path 1 : Sukan
 - b. Path 2 : Kelab / Persatuan
 - c. Path 3 : Unit Beruniform

The background of the cover features a close-up photograph of weathered, horizontal wooden planks. The wood is aged, with visible grain, knots, and some surface wear. A large, semi-transparent grey rectangle is overlaid on the lower half of the image, containing the title text. To the left of this rectangle, there is a solid grey vertical bar that extends from the bottom of the page up to the level of the title.

SYNOPSIS OF COURSE CONTENTS

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

Course Code & Name	Course Synopsis
DCW10273 WOOD-WORKING AND MACHINERY	WOOD-WORKING AND MACHINERY provide students to the fundamental concept of woodworking and machinery operation. Students will explore basic wood working, setting up machine, operation method and also troubleshooting for defects. Students are then required to organize a maintenance plan and suggest the right solution to problems arise from wood working process.
DCW10283 DENDROLOGY	DENDROLOGY aims to familiarize students with the vernacular and scientific names of commercial species in Malaysia. It also emphasizes in naming the trees based on the botanical or scientific techniques. This course provides knowledge of availability and commercial value of Malaysian timber from dipterocarp and non-dipterocarp families. Students will have field trips to lowland dipterocarp forests, hill dipterocarp forests and mangrove forest as all these regions are important in terms of economic values. Through experiences from coursework in classes and field trips, students will possess strong basic skills in recognizing commercial trees in Malaysia.
DCW10293 WOOD ANATOMY AND PHYSICAL PROPERTIES	WOOD ANATOMY AND PHYSICAL PROPERTIES provides knowledge and introduces the background of wood formation, physical properties and wood identification. The wood anatomy will be covered with types of species, wood classification, general and specific characteristics, wood structure, wood identification, the relationship between moisture content in wood and its effect on wood properties and wood utilisation.

Course Code & Name	Course Synopsis
DCW20303 WOOD CHEMICAL PROPERTIES	WOOD CHEMICAL PROPERTIES covers about the chemical composition of wood, chemical analyzing method, chemical component structure and degree of carbohydrate polymerizations in wood. It provides knowledge and introduction to the background of chemical properties of wood. Students will also be taught about the extraction of important chemical component from wood.
DCW20312 WOOD PRESERVATION AND DRYING	WOOD PRESERVATION AND DRYING will be providing knowledge on concepts and principles of wood preservation and drying. This course will stress on courses of wood defects, deterioration agents, natural durability, applications of preservation and drying in wood industry. This course also will gives hands-on exposure in full operations of preservation plant and kiln drying.
DCW20322 WOOD MECHANIC STRUCTURE 1	WOOD MECHANIC STRUCTURE 1 introduces students to the fundamental knowledge and concept of mechanic structure, stresses, equilibrium and forces and shear force and bending moment. Students are exposed to the characteristics of materials, the calculation of stresses and sketches of shear force and bending moment diagram.

Course Code & Name	Course Synopsis
DCW20333 COMPUTER AIDED DESIGN AND DRAFTING	COMPUTER AIDED DESIGN AND DRAFTING will cover the fundamental principles of using CAD software for creating, editing, and presenting 2D and 3D design ideas. Students will be introduced to the user interface in a freely available software package and work with features such as sketching, modelling, assembling, and presentation as required in industry's specification.
DCW20342 PRINCIPLES OF MANAGEMENT	PRINCIPLE OF MANAGEMENT aims to provide knowledge on basic management systems that apply planning, organizing, leadership,controlling, benchmarking and human resource management. Students will also be introduced to the knowledge of Quality Standards.
DCW30352 STATISTICS	STATISTICS provide students to the fundamental concept of statistics, descriptive and inferential statistics and probability. Students are exposed to the data collection method, data analysis and graphic data presentation using Statistical Package for Science Social (SPSS).

Course Code & Name	Course Synopsis
DCW30363 PRODUCT DESIGN AND INNOVATION	PRODUCT DESIGN AND INNOVATION aims to provide knowledge regarding the concept and basic principles in identifying design suitability from the aesthetical aspect based on daily life usage and necessity. Emphasis this course on applying the knowledge through a design process, in order to produce models of products which reflect consideration of all the aspects learnt.
DCW30373 WOOD COMPOSITE TECHNOLOGY	WOOD COMPOSITE TECHNOLOGY will provide students the knowledge of basic concepts and advanced principles in manufacturing lab scale wood composite panel. The course concentrates on the application of raw materials, hand tools and machines for fabricating wood composite panel and also conducting test according to the specification of standard in wood composite. The course also provides knowledge and skills for fabricating wood composite board from wood and non-wood based raw material.
DCW30383 CNC MACHINING	CNC MACHINING will provide advance knowledge in CNC programming and operation. It will be focusing on understanding the concept and basic principles in CNC machine usage. It also focuses more on understanding application of applicable software to produce a product or product's components. In this course student will be learned more on the concept polishing their skills in producing a product starting from designing, material choices, jig and sub-board preparation, and tool's selection.

Course Code & Name	Course Synopsis
DCW30393 PRODUCT MAKING	PRODUCT MAKING aims to provide students with the fundamental knowledge of product making skills to produce a functional product. Students will be exposed to the materials, machining, fittings, fasteners, and accessories with planning and costing to comply with the latest manufacturing standard practices.
DCW30402 WOOD MECHANIC STRUCTURE 2	WOOD MECHANIC STRUCTURE 2 provides fundamental knowledge on concepts and principles to determine the centroid of different types of cross section, moment inertia and stress distribution for beam cross section. This course introduces the principles and method used to analyze beam deflection, column stability and two dimension structure frames.
DCW40413 WOOD FINISHING AND ADHESIVE	WOOD FINISHING AND ADHESIVE provide students with knowledge regarding the finishing process and bonding process. Through this course, students will be exposed to the of material preparation prior finishing and bonding process, methods and techniques of applying finishing and adhesive as well as types of finishing test that commonly conducted. This course will also provide students with the knowledge on types of adhesives that commonly utilized in wood industry, especially adhesives that used in woodworking as well as the basic of wood bonding.

Course Code & Name	Course Synopsis
DCW40423 PULP AND PAPER TECHNOLOGY	PULP AND PAPER TECHNOLOGY aims to provide knowledge on matters relating with history and origin of papermaking, characteristics of wood, fiber morphology that gives great impact to paper properties, wood and chip handling, methods of pulping, processing of pulp, pulp stock preparation and paper manufacturing process. This course also encompasses the physical testing for pulp and paper for the evaluation of paper properties.
DCW40433 PROJECT PROPOSAL	PROJECT PROPOSAL will provide students with knowledge to prepare a distinct report for final year project. The title and the content of proposal will have to comply with subject related to wood based technology field. This course will cover essential parts in proposal preparation such as writing format, problem identification, literature review/field research, research methodology and project design. The evaluation of proposal is done at the end of the semester by selected panel.
DCW40442 PRODUCTION MANAGEMENT	PRODUCTION MANAGEMENT aims to expose student in effective and efficient production processes to meet demands and qualifications includes types of machine use for mass production, plant layouts, work measurement and quality control.

Course Code & Name	Course Synopsis
DCW40452 ENGINEERED WOOD PRODUCT	ENGINEERED WOOD PRODUCT will provide students with knowledge of concepts and basic principles of engineered wood product. The course concentrates on the basic element and the types of engineered wood product, concepts in making or producing engineered wood product, the physical and mechanical properties as well as the durability and the usage of engineered wood product. The course also provides knowledge of current scenario of engineered wood product technology and industry as well as the issues related to engineered wood product.
DCW40462 FOREST MANAGEMENT	FOREST MANAGEMENT provides knowledge of the complexity of tropical rain forest ecosystem, diversity of product uses and conservation methods. This course also explains the latest developments in the forestry sector in Malaysia and the important principles in forest management.
DCW40472 BUILDING INFORMATION MODELING (BIM)	BUILDING INFORMATION MODELING (BIM) focuses on the designing and analysing building models using techniques, resources and BIM tools. Students will be introduced to building models using BIM process for architectural, structural and plumbing. It covers BIM coordination, clash detection and construction scheduling. This course is a project-based where students gain knowledge and skills on the implementation of BIM concepts from planning to design stage.

Course Code & Name	Course Synopsis
DCW50482 TIMBER TRADE	TIMBER TRADE will provide students with knowledge regarding terms and principle of trading and provides a detailed overview of the entire timber and timber products business. The course concentrates on timber trade, timber policy, procedure, as well as timber product certification. The course also looks at the structure of the timber industry from upstream to downstream, and from primary to secondary and tertiary process products. The student will be exposed to the practical works on timber grading.
DCW50493 TIMBER STRUCTURE DESIGN	TIMBER STRUCTURE DESIGN provides basic knowledge on the design of timber structure according to the Allowable Stress Design (ASD) method in accordance with MS544. This includes the application of appropriate modification factors for structural timber uses, design methods, beams design, columns design, joints design and roof trusses design that are commonly used in timber based constructions.
DCW50503 WOOD-BASED TECHNOLOGY PROJECT	WOOD-BASED TECHNOLOGY PROJECT provides opportunity for students to demonstrate or apply all they have learned about wood based industry. Although students are supervised, the responsibility is on the students to define the project boundaries, to organize possible solutions, and to present the results in writing, verbally and in action. Apart from an initial briefing session there are no formal lectures to attend. At the end of the course, a final year project report will be produced and will be assessed in in-person presentations and demonstrations of the work.

Course Code & Name	Course Synopsis
DCW50512 FUNDAMENTALS OF MARKETING	FUNDAMENTALS OF MARKETING aim to expose students to the fundamentals in marketing especially in product development, pricing strategies, market selection and development, and building communication with consumers to obtain market demand. This subject will also expose students to new skills and knowledge to help them in expanding their job prospects in the future.
DCW50522 POLLUTION MANAGEMENT AND CONTROL	POLLUTION MANAGEMENT AND CONTROL is a study on types and effects of diseases to public health. It also emphasizes on the control and monitoring of pollution from forest, water, air and noise and their effects to general health and environment. It also covers the knowledge on management of municipal solid waste and hazardous waste. The students are prepared with the environmental impact assessment and economic evaluation in pollution management and control.
DCW50532 EVENT MANAGEMENT	EVENT MANAGEMENT is a course that enable students to acquire knowledge and skills about planning and handling both formal and informal ceremony. Students will not only be technically proficient planning and organizing events, but also conduct post event activities. A creative entrepreneurial management element will also take into consideration during the process.

Course Code & Name	Course Synopsis
DUW10032 OCCUPATIONAL SAFETY AND HEALTH	OCCUPATIONAL SAFETY AND HEALTH course is designed to impart understanding of the self-regulatory concepts and provisions under the Occupational Safety & Health Act (OSHA). This course presents the responsibilities of workers in implementing and complying with the safety procedures at work. Understanding of notifications of accidents, dangerous occurrence, poisoning and diseases and liability for offences will be imparted upon students. This course will also provide an understanding of the key issues in OSH Management, Incident Prevention, Fire Safety, Hazard Identification Risk Control and Risk Assessment (HIRARC), Workplace Environment and Ergonomics and guide the students gradually into this multi-disciplinary science
DUU10072 ENTREPRENEURSHIP	ENTREPRENEURSHIP focuses on the fundamentals and concept of entrepreneurship in order to inculcate the value and interest in students to choose entrepreneurship as a career. This course can help students to initiate creative and innovative entrepreneurial ideas. It also emphasizes a preparation of a business plan framework through business model canvas.



GRADING SYSTEM & SCHEME

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**

GRADING POINT SYSTEM

Students' performance is measured using a quantitative method known as the Grading Point System (GPS).

(Arahan Peperiksaan Dan Kaedah Penilaian Politeknik Dan Kolej Komuniti Edisi Pertama)

According to the Grading Point System (GPS), the student's performance is evaluated using the following two (2) measurements:

- i. Purata Nilai Mata (PNM) atau Grade Point Average (GPA)

$$\text{PNM} = \frac{\text{Jumlah Mata Kredit yang diperolehi dalam semester semasa}}{\text{Jumlah Jam Kredit yang diambil di dalam semester semasa}}$$

- ii. Himpunan Purata Nilai Mata (HPNM) atau Cumulative Grade Point Average (CGPA)

$$\text{HPNM} = \frac{\text{Jumlah Mata Kredit yang diperolehi hingga kini}}{\text{Jumlah Jam Kredit yang diambil hingga kini}}$$

GRADING SCHEME

The marks obtained by students in a certain course will be given points and grades as the following:

MARKAH	NILAI MATA	GRES	STATUS
90 - 100	4.00	A+	Cemerlang
80 - 89	4.00	A	Cemerlang
75 – 79	3.67	A-	Cemerlang
70 – 74	3.33	B+	Kepujian
65 – 69	3.00	B	Kepujian
60 – 64	2.67	B-	Kepujian
55 – 59	2.33	C+	Lulus
50 – 54	2.00	C	Lulus
47 – 49	1.67	C-	Lulus
44 – 46	1.33	D+	Lulus
40 – 43	1.00	D	Lulus
30 – 39	0.67	E	Gagal
20 – 29	0.33	E-	Gagal
0 – 19	0.00	F	Gagal



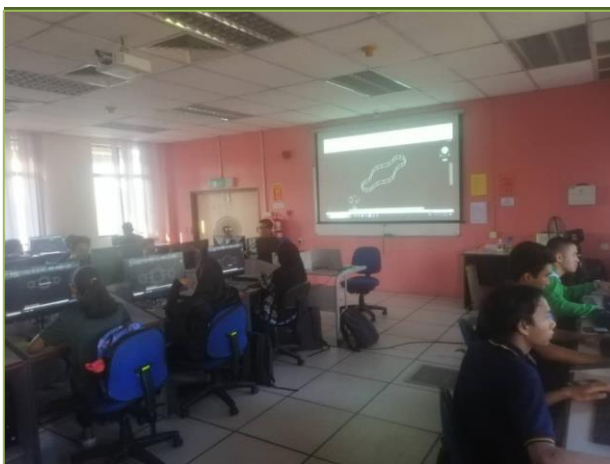
FACILITIES FOR STUDENTS

**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)**



Bengkel Pemesinan Kayu

Makmal Sains Kayu



Makmal CAD



**Makmal
Pulpa dan Kertas**

**Makmal
Komposit Kayu**



**Makmal
Pengawetan Kayu**



Dewan Kuliah

Bilik Kuliah



Foyer JKA



REFERENCES

Programme Information Diploma in Wood Based Technology (DBK),
Department of Polytechnic and Community College Education, Ministry of
Higher Education.

The official portal of Politeknik Sultan Salahuddin Abdul Aziz Shah.

Polytechnic & Community College Student Recruitment Portal.

Buku Arahan Peperiksaan dan Kaedah Penilaian Politeknik dan Kolej Komuniti
Edisi Pertama, Bahagian Peperiksaan dan Penilaian, Jabatan Pendidikan
Politeknik dan Kolej Komuniti.



**STUDENT HANDBOOK
DIPLOMA IN WOOD BASED TECHNOLOGY (DBK)
Politeknik Sultan Salahuddin Abdul Aziz Shah**

e ISBN 978-629-7667-56-2



UNI PENERBITAN POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH