

DIPLOMA OF THE PLASTICS AND RUBBER INSTITUTE MALAYSIA (DPROM) IN RUBBER TECHNOLOGY



DIPLOMA OF THE PLASTICS
AND RUBBER INSTITUTE MALAYSIA (DPROM)



★ NEW
INDUSTRY-
ALIGNED
CURRICULUM
FOR 2026



01

Background

The Plastics and Rubber Institute Malaysia offers a **part-time, one year programme** leading to the award of the **Diploma of the Plastics and Rubber Institute Malaysia (DPRIM)**. The course is specially designed for those already employed who seek formal training in polymer science and technology.

The programme bridges theoretical study with industrial application, ensuring that the knowledge delivered by the Institute's lecturers remains relevant to the practical needs of local industries.

Established in 1960, the course has earned esteemed recognition within the Rubber Industry.

The programme provides valuable training and leads to a useful qualification for successful candidates. Many graduates have since gone on to become **Captains and Pioneers of the industry**.

Participants are required to **complete 8 modules** and attend **practical sessions**. Upon successful completion and passing the **3 examination papers**, candidates will be awarded the **Diploma of the Plastics and Rubber Institute Malaysia (DPRIM)**.

By the end of the DPRIM course, future Rubber Technologist will gain knowledge to ;

- Formulate rubber compounds to meet specific functional requirements
- Modify or improve existing formulations
- Select appropriate types of rubber and compounding ingredients
- Understand and apply rubber processing techniques and machinery
- Design and manufacture rubber products
- Evaluate rubber properties and testing methods
- Interpret product specifications and conduct in-service testing
- Understand latex properties, processing, and applications
- Apply effective manufacturing and management techniques



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Course Structure

Course commences on **2nd Wednesday in January**. The **examinations** will be set at the **December** of the **same year**.

Evening lectures of **3 hours** will be held **once a week** (usually on **Wednesdays, 17:00–20:00 hrs**) at the **Lee Foundation Hall, PRIM Building**, 20 Jalan Utarid U5/28, Mah Sing Integrated Industrial Park, 40150, Shah Alam, Selangor Darul Ehsan, Malaysia.

A total of 123 hours will be spent on the lectures and practical components. Practical sessions will be interspersed throughout the year , complementing the lecture topics. During these sessions, candidates will work with typical rubber processing machineries and laboratory testing equipment's.

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Entry Requirement

The **minimum requirements** for entrance to the Diploma Course are :

- Credits in English, Physics, Chemistry and Mathematics or General Science at the SPM level or equivalent, and
- **One year working experience** in the rubber industry.

04

Assessment for DPRIM

The award of the **Diploma of the Plastics and Rubber Institute Malaysia (DPRIM)** is based on satisfactory performance in the written examinations conducted at the end of the course (December), as well as the evaluation of practical reports. Both internal and external examiners will jointly assess and moderate the overall standards to ensure fairness and consistency.

Examinations comprise THREE PAPERS:

- **Paper 1: Rubber and Rubber Compounding Ingredients (including Latex)**
- **Paper 2: Rubber Mixing, Processing and Manufacturing Processes (including Latex)**
- **Paper 3: Products, Production Processes and Management**

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DPRIM Course Fees

The **Course fee is RM5000/pax for Malaysians & USD1200/pax for International Students.**

If the applicant is not a member of PRIM, an application for the membership of the Institute should accompany the application for enrollment. The application fee is **RM75.00** for **5-years Student Membership.**

The **examination entry fee is RM180.00** comprising three papers at RM60.00 each.

06

MRC Incentives for DPRIM Enrolment

SBIM-14 - Incentive for Training & Development

Participants may be eligible to **claim** up to **50%** of the course fees from the Malaysian Rubber Council (MRC), subject to terms and conditions and approval.

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Enrollment and Application

Applications for enrollment to the Course must be made on the attached application form, (copies may be reproduced if there are more than one applicant from an organization).

The closing date for enrollment for the course is every **31st December** of each year.

Participants who choose not to sit for the examinations will be awarded a **Certificate of Attendance** upon completion of the course. However, participants are strongly encouraged to undertake the examinations to obtain the highly recognised Diploma of the Plastics and Rubber Institute Malaysia (DPRIM) — a qualification well regarded within the rubber industry.

Participants may also opt to enroll in **selected modules** that correspond with their areas of interest.

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DPRIM Refreshers Course

Former successful DPRIM Diploma students who wish to update and enhance their knowledge may now enrol in the Refresher Course. This option allows past participants to revisit the modules without sitting for the examinations.

Course Fee: **RM2,000** per participant

MODULE 1 – Introduction to Polymer and Rubber Technology (5 weeks)

Overview of polymer and rubber fundamentals: why rubber is used, its polymeric nature, and the role of compounding as the foundation of rubber technology. Introduction to common rubbers such as NR, IR, SBR, BR, CR, NBR, EPDM, IIR, and specialty rubbers – covering their main grades, unique features, compounding requirements, primary applications, and relative costs.

(Further details on usage and compounding techniques are covered in Module 6.)

MODULE 2 – Compound Design and Ingredients (5 weeks)

Principles of compound design based on the 3Ps – Processing, Properties, and Price. Study of compounding ingredients including vulcanisation systems, black and non-black fillers, process oils, modifiers, plasticisers, process aids, accelerators, anti-degradants, and other additives. Includes typical compound recipes for various rubber types and products.

MODULE 3 – Mixing Processes and Equipment (6 weeks)

In-depth study of rubber mixing methods, machinery, and process optimisation. Topics include the use of two-roll mills, internal mixers, kneaders, continuous mixing systems, and specialised mixing lines. Covers calendering, extrusion, moulding, and curing processes, along with calculations involving specific gravity, volume cost, and batch weights. Includes laboratory work using a standard NR compound.

MODULE 4 – Product Design and Manufacturing Processes (6 weeks)

Design and production of major rubber products such as tyres and wheels, hoses, conveyor and transmission beltings, profiles, extruded and moulded items. Focus on rubber–textile and rubber–metal bonding techniques. Includes sample formulations and design considerations.

MODULE 5 – Latex Technology and Products (4 weeks)

Study of latex materials, colloidal properties, and compounding principles. Covers latex-based products such as adhesives, foams, threads, coatings, dipped products, and gloves. Includes sample latex formulations and practical demonstrations.

MODULE 6-Advanced Compounding Techniques (6 weeks)

Comprehensive approach to compound design for various rubber types and performance needs. Topics include formulating for specific properties such as curing behaviour, high-speed and high-temperature processing, oil and temperature resistance, and performance in extreme conditions and environments. Includes selection of rubbers based on ASTM D2000 classifications.

MODULE 7- Quality Control and Production Management (4 weeks including revisions)

Covers quality control and testing of compounds and vulcanisates – including properties, test methods, and their relevance to product quality. Introduces quality management systems, production control techniques, process selection, machine layout, line balancing, automation, and efficiency optimisation.

MODULE 8- Industry Case Studies and Expert Insights (4 weeks)

Sessions conducted by experienced industry professionals sharing practical insights and case studies on real-world challenges such as cost control, new product development, ESG compliance, competitiveness, and profitability. Discussions include success factors across key rubber sectors – compounding, automotive parts, extrusions (hoses), beltings, moulded products, retreads, latex gloves, and foams. Students will analyse case studies and present their findings.

A APPLICATION FORM FOR FULL COURSE
Full Name :
NRIC : **Date Of Birth** :

D D M M Y Y

Address (Home) :

Mobile Number **Fax** **Email**

Name and Address of present Employer

Position : **Years of Service** :
Are you sponsored by your present employer for this course ? :
Past employment :
Academic Qualifications
SPM/GCE/MCE SC Grade
English Language
Mathematics
Additional Maths
Chemistry
General Science
Physics
Other Qualifications:

Please submit copies of identity card and relevant academic certificates with this application.

Photostat copies of this application form are acceptable.

If the applicant is currently not a member of The Plastics and Rubber Institute Malaysia (PRIM), an application fee for membership of the Institute should accompany the application for enrolment. The application fee is RM75.00 for 5 years student membership.

An enrolment fee of **RM5000/ USD 1200** should accompany this application form. The fee is refundable if the application is not successful.

All payments should be remit to THE PLASTICS AND RUBBER INSTITUTE MALAYSIA Public Bank Account No: 3149 16213 1
Signature of Applicant: **Date**

Please Return completed application form to :

THE PLASTICS AND RUBBER INSTITUTE MALAYSIA

20, JALAN UTARID U5/28

MAH SING INTEGRATED INDUSTRIAL PARK

40150 SHAH ALAM

SELANGOR DARUL EHSAN

MALAYSIA

TEL : +603 7847 1034

WHATSAPP: +6017 3190 850

Email : primy@prim.org.my

Web : www.prim.org.my

B APPLICATION FORM FOR MODULAR COURSE

Module Name : [Redacted]

Module Number : [Redacted] **Module Fees** : [Redacted]

Full Name : [Redacted]

NRIC : [Redacted] **Date Of Birth** : [Redacted]
D D M M Y Y

Name and Address of Employer : [Redacted]
[Redacted]
[Redacted]

Position : [Redacted] **Years of Service** : [Redacted]

Mobile Number : [Redacted] **Fax** : [Redacted] **Email** : [Redacted]

Are you sponsored by your present employer for this course ? : [Redacted]

Address (Home) : [Redacted]
[Redacted]
[Redacted]

Photostat copies of this application forms are acceptable.
Enrolment fees of the appropriate amount as stated against each module should accompany this application form.
All payments should be remit to THE PLASTICS AND RUBBER INSTITUTE MALAYSIA Public Bank Account No: 3149 16213 1

Signature of Applicant: [Redacted]

Date : [Redacted]

Please Return completed application form to :
THE PLASTICS AND RUBBER INSTITUTE MALAYSIA
20, JALAN UTARID U5/28
MAH SING INTEGRATED INDUSTRIAL PARK
40150 SHAH ALAM
SELANGOR DARUL EHSAN
MALAYSIA
TEL : +603 7847 1034
WHATSAPP: +6017 3190 850
Email : primy@prim.org.my
Web : www.prim.org.my

B APPLICATION FORM FOR REFRESHER COURSE

DPRIM Year : [REDACTED]

Full Name : [REDACTED]

NRIC : [REDACTED] **Date Of Birth** : [REDACTED]
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]
D D M M Y Y

Name and Address of Employer : [REDACTED]
[REDACTED]
[REDACTED]

Position : [REDACTED] **Years of Service** : [REDACTED]

Mobile Number : [REDACTED] **Fax** : [REDACTED] **Email** : [REDACTED]

Are you sponsored by your present employer for this course ? : [REDACTED]

Address (Home) : [REDACTED]
[REDACTED]
[REDACTED]

Photostat copies of this application forms are acceptable.
Enrolment fees of the appropriate amount as stated against each module should accompany this application form.
All payments should be remit to THE PLASTICS AND RUBBER INSTITUTE MALAYSIA Public Bank Account No: 3149 16213 1

Signature of Applicant: [REDACTED]

Date : [REDACTED]

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Web : www.prim.org.my

Module Number	Date	Topic	Lecturer	Fees (RM)
1	14/01/2026	Introduction to polymer and rubber technology	Pong Kai See	RM1000
	21/01/2026	Common Rubbers NR/IR, BR, SBR, IIR,EPM/EPDM	Dr Aris Ahmad	
	28/01/2026	Common Rubbers NR/IR, BR, SBR, IIR,EPM/EPDM.... continued	Dr Aris Ahmad	
	04/02/2026	Specialty Rubbers CR, NBR, MQ, AEM,ACM,HNBR, EO/ECO, FKM	Chan Pak Kuen	
	11/02/2026	Specialty Rubbers continued	Chan Pak Kuen	
2	25/02/2026	Compounding Ingredients	Dr Aris Ahmad	RM1000
	04/03/2026	Compounding Ingredients.... continued	Dr Aris Ahmad	
	11/03/2026	Vulcanisation of rubber and ebonite/sulphur cure systems/types of sulphur crosslinks/CV, semi-EV,EV/peroxides,resin, metal oxide cures, etc./unsaturated and saturated rubbers	Dr Aris Ahmad	
	18/03/2026	Rubber accelerators, types, classification, differences, usage, characteristics, advantages vs disadvantages. Viscometer, rheometer, scorch, cure properties	Dr Aris Ahmad	
	01/04/2026	Compound Design (3Ps: Processing, properties and price)/effect of vulcanising systems on cost/effect of increasing crosslinks on properties: tensile, tear, hardness, etc/soluble systems	Dr Aris Ahmad	
3	08/04/2026	Mixing of Rubber Compound, Calculations of SG, Volume Cost and batch weights	Lim Sum Teck	RM800
	15/04/2026	Mixing Processes	Lim Sum Teck	
	22/04/2026	Mixing Equipment's including complete lines	Lim Sum Teck	
	29/04/2026	Mixing Methods	Lim Sum Teck	
	28/04/2026 & 29/04/2026	Lab session on Standard Rubber Compounds (2 days)		

**DIPLOMA OF THE PLASTICS AND RUBBER INSTITUTE MALAYSIA
APPLICATION FOR YEAR (2026) MODULES**

Module Number	Date	Topic	Lecturer	Fees (RM)
4	06/05/2026	Rubber Product Design. Manufacturing processes: calendering, extrusion, vulcanisation methods	Pong Kai See	RM1800
	13/05/2026 & 20/05/2026	Tyres: Identification marks on tyres/structure and components in a tyre/type of polymer for each component/tyre testing methods (MS224)/main features LV, CV, OTR, aircraft /ICE v EV tyres. Latest trends in tyres: tyre labelling, latex CB MB/silica silanisation, SSBR, NeoBR, functionalised rubber, extending the magic triangle.	Dr. K. Muniandy	
	03/06/2026	Retreading of tyres, hot and cold retreading	Lim Sum Teck	
	10/06/2026	Fabrics in rubber. Hose, Conveyor and transmission beltings.	Pong Kai See	
	24/06/2026	Profiles and extruded products	Pong Kai See	
	01/07/2026	Moulding Technology	Pong Kai See	
	08/07/2026	Engineering Rubber Products, Rubber to Metal Bonding, bonding of steel cords to rubber	Chan Pak Kuen	
	15/07/2026	Reclaim and Recycling end of life rubber (incl ELT) - pyrolysis, devulcanisation, energy recovery and waste rubber reuse	Dr Roland Ngeow Yen Wan	
5	22/07/2026	Colloidal properties, particle size and size distribution, stability and destabilisation. Natural rubber latex - sources, non-rubbers, grades, properties and tests. Synthetic latices: emulsion latex, artificial latex, types and grades. Colloidal properties, particle size and size distribution, stability and destabilisation. Natural rubber latex - sources, non-rubbers, grades, properties and tests. Synthetic latices: emulsion latex, artificial latex, types and grades.	Ng Kha Chan	RM800
	29/07/2026	Latex compounding principles, solutions, emulsions and dispersions. Processes and machinery. Handling, production and maturation of compounds. Prevulcanisation. Vulcanising methods.	Ng Kha Chan	
	05/08/2026	Latex products: adhesive, foam (upholstery, mattresses, carpet backing), thread, coatings, exercise bands.	Ng Kha Chan	
	12/08/2026	Dipped products: catheters, condoms, gloves (supported, unsupposrted, medical). Sample recipes, processes and machinery design.	Ng Kha Chan	
	12/08/2026	Lab Session on Latex (all day)		

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Module Number	Date	Topic	Lecturer	Fees (RM)
6	19/08/2026	Advanced Compounding. Design of rubber compounds for specific process + properties	Pong Kai See	RM800
	26/08/2026	Compounding for Specific Products	Sin Siew Mun	
	02/09/2026	Compounding for specific properties : cure, high speed process, high temperature processing, temperature resistance	Stanley Lim Hock Eng	
	23/09/2026	Compounding for specific properties : Oil resistance, extreme conditions and environments, needs of special processes. Classification of rubbers per ASTM 2000	Pong Kai See	
7	30/09/2026	Testing of rubber. Why test? 4 basic concepts – validity, accuracy, precision and reproducibility. Rubber properties, test methods, relevance, quality of data. Raw rubber tests. Processability tests. Vulcanisate tests: tensile properties, tear, hardness, resilience, abrasion, dynamic properties – HBU, flex cracking, servohydraulic tests.	Assoc. Prof. Ong Siew Kooi	RM400
	07/10/2026	Rubber properties, test methods (continued). Product and service testing – an overview. Quality assurance vs. quality control. Quality systems. Concept of TQM.	Assoc. Prof. Ong Siew Kooi	
8	14/10/2026	Thermoplastic rubbers – TPE, TPV, block copolymers vs. dynamic vulcanised. Trends and usage.	Assoc. Prof. Ong Siew Kooi	RM800
	21/10/2026	Production management and control, case studies	Pong Kai See	
	28/10/2026	Choice of processes and machineries.case studies	Pong Kai See	
	27/10/2026 to 28/10/2026	Lab Session on Testing (2 days)		
8	04/11/2026	Safety, Health and Environment, Waste Control and Disposal, ESG Compliance	Raja Sellamuthu	
	11/11/2026	Final Briefing	Lim Sum Teck	
	TBC	Final Exams		