



# Master Plumber Designation Curriculum

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**Prepared by BluLever Education**

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# Description and Purpose of Course

## OVERVIEW

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### Description

The Master Plumber Designation is intended to provide a career progression pathway for professionals within the plumbing industry. The curriculum is targeted primarily at plumbing business owners or plumbers with business responsibility in their organisation. The intention of the Master Plumber designation is to recognise people who are experts in their field, upskill them in areas they may not have had an opportunity to have formal training on previously, and develop them as leaders and role models for the industry. Master candidates are technically excellent already, and this is their opportunity to round out their technical knowledge with additional key skills to help them succeed in all areas of business. As part of this designation, we aim to build a culture of learning and development within the industry, both by providing this opportunity for Masters to continue to upskill themselves, and by equipping them with training and mentoring skills so that they can continue to develop others. While this course does cover a variety of skills (largely non-technical), it is focused more on application in the real world than on learning theory. The intention of this course is to give Masters an opportunity to consolidate and solidify the knowledge they may have learnt along the way into clear and useful frameworks that they can easily apply in their day to day. Master Plumbers are intended to be role models, teachers and custodians of the industry, and this course ensures that they play that role effectively and in a well-rounded manner.

### Occupational Purpose

The purpose of this qualification is to prepare a qualified and Licensed Plumber to operate at the highest point in their plumbing career. The Master Plumber is proficient in business management, leadership and ethics, training and mentoring, and applied plumbing principles.

### Occupational Tasks

- Business Management, covering: sales and marketing; HR & compliance; project management & planning; customer management; business communications; financial management & compliance; team management, strategy & systems; and risk management.
- Leadership and Ethics, covering self leadership; people leadership; systems leadership; business ethics; and negotiation & conflict resolution.

- Training and Mentoring, covering: coaching; mentoring; planning & managing apprenticeships; and how we Learn / training .
- Applied Plumbing Principles, covering: codes & standards; design & construction projects; and plumbing technology trends.

# Course Structure and Timelines

## OVERVIEW

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### Structure

This course consists of 4 modules, each of which has between 3 and 8 units. These modules are intended to build on each other and be taught in an integrated manner: tying into each other, but also into the participant's real world experience. The first and longest Module is Business Management, with 8 units, which provides insight into all facets of running and growing a successful business on a practical level. This module should be taught first, so that participants have the opportunity to apply these concepts alongside those they learn in later modules in their work environments. The second and third modules, Leadership & Ethics and Training & Mentoring, are of similar length (4 and 5 units respectively). The final module is Applied Plumbing Principles, and this consists of 3 units. This course has been benchmarked against a professional qualification or postgraduate degree level course, and as such is intended to be rigorous and intensive. Some examples of the types of courses against which this course was benchmarked are: ACCA, CIMA, MBA or postgraduate management diplomas. These were used as benchmarks for both the level and intensity of content, as well as for the length and time commitment of the course. There are also some overlaps in content with a traditional MBA, CIMA or postgraduate management diplomas within modules 1- 3.

### Course Overview

<b>MP1-BM</b>	<b>Business Management</b>
MP1-BM-1	Sales & Marketing
MP1-BM-2	HR & Compliance
MP1-BM-3	Project Management & Planning
MP1-BM-4	Customer Management
MP1-BM-5	Business Communication
MP1-BM-6	Financial Management & Compliance
MP1-BM-7	Team Management, Strategy and Systems
MP1-BM-8	Risk Management
<b>MP2-LE</b>	<b>Leadership &amp; Ethics</b>
MP2-LE-1	Self Leadership
MP2-LE-2	People Leadership
MP2-LE-3	Systems Leadership
MP2-LE-4	Business Ethics
MP2-LE-5	Negotiation & Conflict Resolution

<b>MP3-TM</b>	<b>Training &amp; Mentoring</b>
MP3-TM-1	Coaching
MP3-TM-2	Mentoring
MP3-TM-3	Planning & Managing Apprenticeships
MP3-TM-4	How we Learn / Training

<b>MP4-APP</b>	<b>Applied Plumbing Principles</b>
MP4-APP-1	Codes & Standards
MP4-APP-2	Design & Construction Projects
MP4-APP-3	Plumbing Technology Trends

### Timeline Guidelines

This course is intended to run over a one year period of time, as a part time course. It is up to the Training Provider's discretion as to how exactly this course is run in terms of method and timing of delivery. This programme needs to allow for flexibility and as such candidates can take a minimum of 1 year and a maximum of 3 years to complete this course, with the target being 1 year. If candidates are not finished within 3 years they will be deregistered and will have to reapply and start the qualification again.

### Training Provider Guidelines

This curriculum is intended as a guide for training providers to create their training material, and additionally provides assessment guidelines. The curriculum intentionally leaves room for training providers to interpret or adjust assessments and manner of training as they see fit, so long as they have been accredited to run this course.

### Module Credits and Pass Requirements

Each module is weighted as follows:

<b>MP1-BM</b>	<b>Business Management:</b>	<b>40 Credits</b>
<b>MP2-LE</b>	<b>Leadership &amp; Ethics:</b>	<b>20 Credits</b>
<b>MP3-TM</b>	<b>Training &amp; Mentoring:</b>	<b>20 Credits</b>
<b>MP4-APP</b>	<b>Applied Plumbing Principles:</b>	<b>20 Credits</b>

Individual units are not weighted, and it is up to the discretion of the Training Provider to weight the individual units within the modules.

In order to pass the coursework (prior to the final assessment), candidates must pass each module with 65% or higher. They do not need to pass every unit within each module, but must achieve 65% or higher of the total module credits to pass. In order to pass the entire course and be awarded the designation, candidates must satisfy the requirements for the coursework as specified, and additionally must pass the final assessment. The final assessment does not have a credit value but is rather a pass / fail assessment.

# Benchmarking and Comparability

## OVERVIEW

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### **Benchmarking and Comparability**

The Master Plumber Curriculum was designed through a human centred design process, first understanding the needs of the industry and the market, and then designing for those needs. In addition, local and international benchmarks were used to guide the design of this curriculum, with particular focus on related industries locally, as well as examples from the UK and Germany internationally.

### **International Benchmarking**

In order to put together a curriculum that encompasses trends of the future and a world class standard, international comparisons were made and used as a benchmark. This benchmarking included the following resources / institution / curricula:

- Rahmenlehrplan für die Vorbereitung auf die Meisterprüfung im Installateur- und Heizungsbauer-Handwerk - Meister curriculum certificate in plumbing and heating engineers craft - Germany
- Bundesinstitut für Berufsbildung (BIBB) - Federal Institute for Vocational Education and Training (BIBB) - Germany
- WorldSkills UK - United Kingdom
- BPEC - United Kingdom
- Level 3 Diploma in Plumbing and Domestic Heating - United Kingdom

# Prerequisites

## OVERVIEW

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The prerequisites are designed to ensure that candidates coming into the Master Plumber Course have the relevant qualifications and experience, and are prepared to undertake such a course. As Master Plumbers are recognised as experts in their field and are well respected, experienced and mature professionals. These prerequisites serve to screen for technical excellence as well as experience. The prerequisites are not intended to exclude and allow for some discretion on the part of the review committee, particularly in exceptional or unusual circumstances.

## PREREQUISITES

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### Requirements

- A qualified and Licensed plumber in good standing with the PIRB
  - Has 2 relevant technical specialisations: e.g. solar and heat pump
  - 5 years post qualification industry relevant experience
  - OR 10 years industry relevant experience
  - Must submit a Portfolio of Evidence / CV showing breadth of experience (i.e. has worked not only in maintenance plumbing for domestic residences) which will be reviewed by a Review Committee
  - Has completed a relevant SHE training course or has relevant SHE experience
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### Review Committee

#### Review Committee Overview

- The Review Committee must consist of 3 Master Plumbers in good standing with the PIRB
- OR initially (if there aren't enough Master Plumbers available) 3 Licensed plumbers selected by the PIRB

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## Review Committee Process

### Evaluation Process

- The Review Committee will have to have a majority agreement on the candidate's suitability criteria allowing them to be admitted into the programme
- Review Committee will have 2 weeks to assess the candidate and provide feedback on admittance
- Review Committee cannot be the same as the Final Assessment Panel
- Once a candidate has been admitted into the programme they can be referred to a relevant training institution that is certified to provide the Master Plumber Course
- Please see below for prerequisite framework on table 1

All candidates will need to meet all 5 prerequisite requirements in order to be considered for admission into the programme:

Table 1

<b>Prerequisite Requirements</b>	<b>Prerequisite Requirements Standing</b>
Qualified and licensed plumber in good standing with the PIRB	
2 relevant technical specialisations: e.g. solar and heat pump	
5 years post qualification industry relevant experience* or 10 years industry relevant experience*	
Portfolio of Evidence / CV meets requirements with regards to above experience	
Completed a relevant SHE training course or has relevant SHE experience**	

*Industry Relevant experience\** - candidates will need to show that they have worked in more than one field such as not only in maintenance plumbing for domestic residences. Candidates will need to demonstrate that they have mastered the technical aspects of the industry and are seen as top plumbers or rising stars in the industry. Candidates will also need to show that they are either leaders within their organisation or have leadership potential.

*Relevant SHE training course\*\** - please consult the list of relevant courses below. If the candidate has not completed a relevant SHE training course, they may still be considered for admission, but will need to then complete a SHE course from the list

during the time that they are enrolled in the Master Plumber course. The completion of a SHE course from the list would then become a requirement for graduation.

Relevant SHE Courses:

- Legal Liabilities and Hazard Identification & Risk Assessment (HIRA)
- SAMTRAC
- ISO 45001

If a candidate has completed an SHE course not listed above, it will be up to the discretion of the review committee.

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## Portfolio of Evidence / Master Plumber Application Form

All candidates need to submit a Portfolio of Evidence in the format of the Master Plumber Application Form to the Review Committee. Please see appendix for this form. Candidates may make a special request / submission to the review committee to be exempted from specific modules based on prior studies or extensive experience in a particular area. These exemptions will be considered by the review committee on a case by case basis with close reference to the curriculum. Where possible, candidates should be encouraged to participate in the complete course as it is largely focused on application rather than knowledge. Exemptions can be granted based on the committee's discretion. If candidates are granted exemptions by the committee they will not be required to complete the exempted course modules, however they will still be required to complete the relevant sections of the summative assessment.

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## Submissions

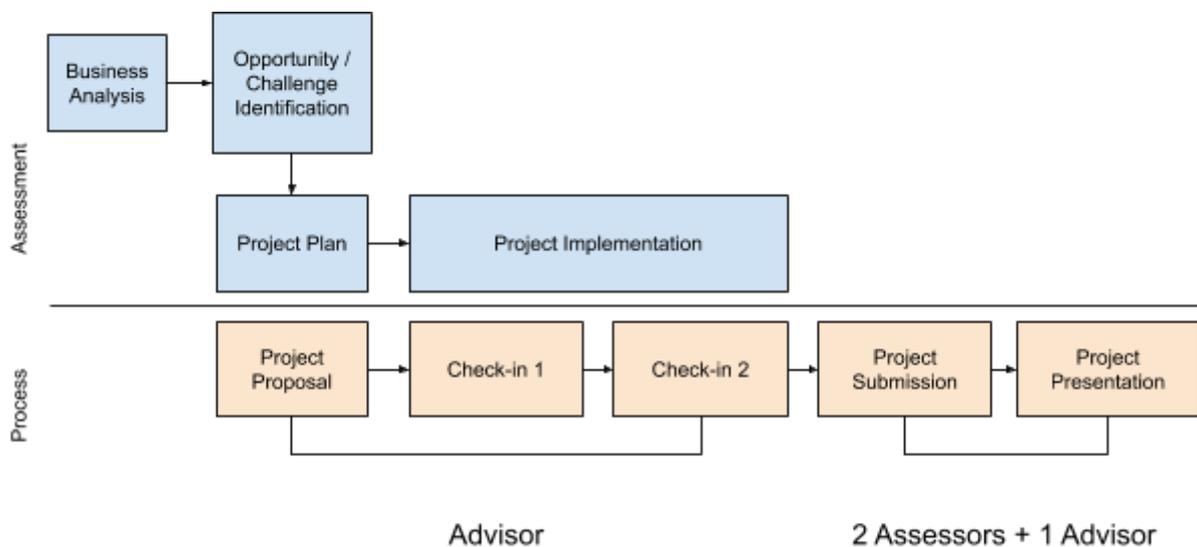
**Candidates will submit the following**

- Portfolio of evidence / Master Plumber Application Form
- Proof of being a Licensed plumber in good standing with the PIRB
- All qualification certificates

# Final Assessment

## OVERVIEW

The final assessment is an examination of the candidate's entire learning throughout the Master Plumber Programme. It will bring together all the learning that the candidate has experienced while going through the course. The final assessment is a project based assessment where the candidate will present their project to an assessment board. The project will consist of four aspects: analysis of business; opportunity or challenge; project plan and project implementation. The candidate will be allocated an advisor to guide them along the way, as well as multiple milestones for the candidate to check progress.



## ASSESSMENT

### Part 1: Business Analysis

The candidate will need to submit a business analysis report, no longer than 5 pages. The essence of the report is to use all four modules of the programme (Business Management; Leadership & Ethics; Training & Mentoring; and Applied Plumbing Principles) to critically analyse the candidate's current business. The candidate will need to use each unit of each module as a framework to assess the business. The report will need to include at least the following headings: Introduction; Business Management; Leadership & Ethics; Training & Mentoring; and Applied Plumbing

Principles; Conclusion. Please note that a candidate can reuse or repurpose work already done as part of assessments during the course, but will need to make sure that it aligns with the report's flow and structure.

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## **Part 2: Opportunity / Challenge Identification**

Based on the findings within the Business Analysis Report, the candidate will need to identify one main opportunity or challenge that the business faces. The candidate will need to explain in detail what the opportunity or challenge is, why they want to tackle this and the possible benefits to the business for solving the challenge or implementing the opportunity. This is a one page document, outlining: opportunity or challenge; the why; and the benefits to the business.

Some examples are: an opportunity to implement a new technology system (CRM / procurement process / financial management system) and change the way this process happens in the business; expanding to a new market, product line or sector such as maintenance / contract plumbing; an opportunity to implement an apprenticeship process in the business and start taking on apprentices.

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## **Part 3: Project Plan**

Candidates will need to create a detailed action plan for solving the opportunity or challenge identified in the previous step. This can be done in any format that the candidate / training provider feels is most useful. The project plan will need to incorporate all necessary learnings that the course has covered, such as change management or project planning.

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## **Part 4: Project Implementation**

This is where candidates execute their project plan. Candidates will report back on the implementation of their final project with clear evidence of progress made. The report will not be longer than 5 pages, with the following topics: Introduction; Progress Made with Evidence; Things I Did Well; Things I Could Have Done Better; and Conclusion.

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## Submissions

Candidates will need to submit electronically all 4 parts of the Final Assessment to the Assessment Board and their Advisor. Candidates will need to present their Final Assessment to the Assessment Board and their Advisor. The tools used in the presentation will be up to the candidate to decide, and the candidate will not need to submit presentation material for assessment, but will rather be assessed on the efficacy of their presentation.

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## PROCESS

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### Advisor

The advisor is a qualified Master Plumber or in the case of no Master Plumbers being available a Licensed plumber can be selected by the PIRB. The Advisor's role is to advise the candidate through the Final Assessment. They will provide mentorship and guidance for the candidate throughout the Final Assessment process of their final project. The Advisor helps to ensure that the candidate is keeping to deadlines and submitting high quality work. In addition, the Advisor is responsible for making sure that the candidate's project is relevant and adds value to the industry. The Advisor will be part of the Assessment Board during the final assessment, and will help the candidate provide clarity to the Assessment Board. This creates a level of accountability for the Advisor within the process. Advisors can be either allocated to candidates or candidates can nominate their own Advisors - but in the case of a nomination, this will need to be approved by the Assessment Board.

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### Assessment Board

The Assessment Board is made up of two assessors and one advisor. All three members of the Assessment Board should be qualified Master Plumbers or in the case of no Master Plumbers being available, Licensed plumbers can be selected by the PIRB. The role of the Assessment Board is to examine the Final Assessment of the candidate, and evaluate the candidate's final project. The Assessment Board will act as the final gate keeper of the Master Plumber Designation, and will provide quality assurance for the title of Master Plumber.

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## Project Proposal

The candidate and their advisor will need to agree on the project proposal as well as the project plan. This creates quality control within the process and ensures that the project is adding value to the business and industry. The advisor will need to sign off before the candidate can start to implement the project at this stage. This milestone allows candidate to receive feedback, direction and reassurance from their advisor.

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## Check-in 1 and Check-in 2

The candidate and the advisor will need to do at least 2 check-ins during the implementation process of the project. These milestones allow candidates to receive feedback, direction and reassurance from their advisor. Advisors will provide quality assurance during the implementation phase of the project and ensure that candidates are on the right track.

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## Project Submission and Project Presentation

The candidate will need to submit all four parts of their Final Assessment at the Project Submission stage. This will be done electronically and before the agreed upon date.

The candidate will have to present their final project to the Assessment Board at the Project Presentation stage. This presentation will be an oral presentation, and the tools used during the presentation will be at the discretion of the candidate. The candidate will need to present their project to the Assessment Board as well as defend their project to the Assessment Board. This could entail answering questions such as: why they chose this topic; what evidence they have to back up their findings; how this project has shaped their organisation going forward; what are the candidate's next step post this project. The advisor can provide clarity on the project, but will also be assessing the candidate during this stage.

# BUSINESS MANAGEMENT

## Module MP1-BM - 40 credits

### MODULE OVERVIEW

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#### Module Vision and Objectives

One of the core elements of being a Master Plumber is being able to run, or support in running a successful business. Masters should be comfortable with all aspects of running a business, and able to advise on these. This module introduces the concepts of: Sales and Marketing, HR and Compliance, Project Management and Planning, Customer Management, Business Communication, Financial Management and Compliance, Team Management, Strategy and Systems, and Risk Management, as well as the related technologies within those concepts. The intention of this module is to provide a very practical and hands-on introduction to these concepts, and to have participants apply these concepts within their own businesses as they go through this module, allowing them to practice and consolidate learning. The intention of this module is not business theory for theory's sake, but rather useful, practical knowledge and skill sets that will aid in running and growing a successful business.

#### A Note on Assessments

Each subsection has assessment criteria listed, these are intended to be formative assessments conducted during the course of the training, in whatever format the training provider sees fit. In addition, there is a final module assessment criteria listed, this is intended as a summative assessment for the module and designates pass / fail of the module.

#### Module Units

MP1-BM-1	Sales & Marketing
	MP1-BM-1.2 Online Marketing and Social Media
MP1-BM-2	HR & Compliance
MP1-BM-3	Project Management & Planning
	MP1-BM-3.1 Logistics and Job Management Technology
MP1-BM-4	Customer Management
	MP1-BM-4.1 Customer Management Technology
MP1-BM-5	Business Communication
MP1-BM-6	Financial Management & Compliance
	MP1-BM-6.1 Financial Management Technology
MP1-BM-7	Team Management, Strategy and Systems
	MP1-BM-7.1 Procurement Technology

## CURRICULUM

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### MP1-BM-1 Sales & Marketing

#### Topic Elements / Content Specifications

- *MP1-BM-1-TE1* Introduction to sales and marketing
- *MP1-BM-1-TE2* Understanding consumer behavior and the role of market research
- *MP1-BM-1-TE3* Identifying and evaluating target markets and customer base
- *MP1-BM-1-TE4* Building out sales pipeline systems, including: sales technologies, qualifying prospects, prioritising potential customers, etc
- *MP1-BM-1-TE5* Understanding competition and identification of a unique selling proposition
- *MP1-BM-1-TE6* Sales negotiation techniques
- *MP1-BM-1-TE7* Defining and building sales and marketing strategies
- *MP1-BM-1-TE8* Understanding the digital marketing space. Including: building a good website, social media, search engine optimization (SEO), the advantages and disadvantages of digital marketing, E-commerce, and an exploration of emerging tools that help marketers excel in the digital environment

#### Learning Outcomes

- *MP1-BM-1-LO1* Participants know how to conduct market research and understand their customer
- *MP1-BM-1-LO2* Participant can identify and evaluate target markets and evaluate their customer base
- *MP1-BM-1-LO3* Participant can build out a sales pipeline
- *MP1-BM-1-LO4* Participant can analyse their competition and what their own unique selling proposition is
- *MP1-BM-1-LO5* Participant is able to use negotiation techniques during sales meetings
- *MP1-BM-1-LO6* Participant can build a sales and marketing strategy
- *MP1-BM-1-LO7* Participant understands at a high level what are the different elements of the digital marketing space and what are the benefits of each element

#### Assessment Criteria

- *MP1-BM-1-AC1* Participant puts together a sales and marketing strategy for their business. This strategy should include all the elements from this unit, such as: unique selling proposition, competition analysis, target market, digital marketing plan, etc

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## MP1-BM-2 HR & Compliance

### Topic Elements / Content Specifications

- *MP1-BM-2-TE1* Introduction to human resources. Understanding the strategic function of HR management, and applying it to meet challenges unique to the industry
- *MP1-BM-2-TE2* Recruitment, sourcing and hiring
- *MP1-BM-2-TE3* Workforce planning and staffing considerations
- *MP1-BM-2-TE4* Employee compensation and benefits
- *MP1-BM-2-TE5* Overview of South African labour law and contract management
- *MP1-BM-2-TE6* Professional development and training, and company training needs
- *MP1-BM-2-TE7* Staff performance management
- *MP1-BM-2-TE8* Succession planning
- *MP1-BM-2-TE9* Disciplinary action and termination
- *MP1-BM-2-TE10* Organisational culture
- *MP1-BM-2-TE11* Overview of Broad-Based Black Economic Empowerment (BBBEE)

### Learning Outcomes

- *MP1-BM-2-LO1* Participant can build out a human resource management strategy for their business. This would encompass all elements mentioned in the above section.
- *MP1-BM-2-LO2* Participant is familiar with South African labour law and BBBEE standards

### Assessment Criteria

- *MP1-BM-2-AC1* Participant puts together and presents a complete human resource plan for their business

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## MP1-BM-3 Project Management & Planning

### Topic Elements / Content Specifications

- *MP1-BM-3-TE1* Defining, initiating, and organising a project
- *MP1-BM-3-TE2* Planning of the project. Including: develop, evaluate and execute a project (management) plan in which as many of the activities scope, time, cost, purchasing, quality, personnel, communication, and risk are realistic challenges
- *MP1-BM-3-TE3* Using project management tools and technology, such as Basecamp, Asana, etc
- *MP1-BM-3-TE4* Running effective meetings
- *MP1-BM-3-TE5* Communication and managing stakeholders within a project

### Learning Outcomes

- *MP1-BM-3-LO1* Participant can run a project end to end, which is on time, within budget and to specifications.

### Assessment Criteria

- *MP1-BM-3-AC1* Participant will need to plan a project end to end in the greatest detail. Participant will also need to show evidence that they ran the project end to end, on time, within budget and to specifications.
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## MP1-BM-4 Customer Management

### Topic Elements / Content Specifications

- *MP1-BM-4-TE1* Defining customer service and its benefits
- *MP1-BM-4-TE2* Understanding who the customer is - internal and external customers
- *MP1-BM-4-TE3* The fundamentals of service excellence, e.g. building a service excellence culture, service standards, benchmarking, etc.
- *MP1-BM-4-TE4* Customer service as a strategic element of business
- *MP1-BM-4-TE5* Dealing with customers: controlling conflict, stress, and time in a customer service environment, dealing with customer service incidents and complaints
- *MP1-BM-4-TE6* The meaning and benefits of a CRM (Customer Relationship Management) system
- *MP1-BM-4-TE7* Tools and applications of a CRM, e.g.: Customer lifetime value, customer lifecycle management, customer acquisition costs, CRM tools (Salesforce CRM, Zoho CRM) etc.

### Learning Outcomes

- *MP1-BM-4-LO1* Participant can articulate what excellent customer service is and its benefits
- *MP1-BM-4-LO2* Participant is able to identify internal and external customers, and can explain the relevance of good customer service to each
- *MP1-BM-4-LO3* Participant is aware of the fundamentals that make up excellence customer service
- *MP1-BM-4-LO4* Participant can deal with customers under high stress situations
- *MP1-BM-4-LO5* Participant can implement and apply tools and applications relating to a CRM within their workplace

### Assessment Criteria

- *MP1-BM-4-AC1* Participant will need to prove that they can deal with customers in high stress situations - this could be through a role play exercise

- *MP1-BM-4-AC2* Participant will have to calculate all metrics relating to customer management of their own business, e.g.: Customer lifetime value, customer acquisition costs, etc
- 

## **MP1-BM-5 Business Communication**

### **Topic Elements / Content Specifications**

- *MP1-BM-5-TE1* What is business communication, what are the different channels of business communication, and what are the benefits of communicating for impact
- *MP1-BM-5-TE2* Guidelines for written business communication e.g.: emails, principles of writing, job descriptions etc.
- *MP1-BM-5-TE3* Guidelines for verbal business communication e.g.: presentations, story telling, etc.
- *MP1-BM-5-TE4* The value of listening in the workplace and tools to improve listening skills
- *MP1-BM-5-TE5* Guidelines for other forms of business communication (non verbal communication) e.g.: body language, eye contact, gestures, facial expressions, etc.

### **Learning Outcomes**

- *MP1-BM-5-LO1* Participant can identify different channels of communication, and can differentiate the benefits for each
- *MP1-BM-5-LO2* Participant is able to communicate effectively through written communication
- *MP1-BM-5-LO3* Participant is able to communicate effectively through verbal communication
- *MP1-BM-5-LO4* Participant is able to actively listen in the workplace
- *MP1-BM-5-LO5* Participant is able to read other forms of business communication (non verbal communication) in the workplace, and identify their own non verbal communication

### **Assessment Criteria**

- *MP1-BM-5-AC1* Participant gives a presentation which includes verbal, non verbal and written components
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## **MP1-BM-6 Financial Management & Compliance**

### **Topic Elements / Content Specifications**

- *MP1-BM-6-TE1* Introduction to finance for small business
- *MP1-BM-6-TE2* Basics of accounting and bookkeeping

- *MP1-BM-6-TE3* Basics of financial statements - P&L, Cash Flow and SOFP (statement of financial position), and their interpretations
- *MP1-BM-6-TE4* Cash flow and cash flow projection
- *MP1-BM-6-TE5* Budgeting and forecasting for small businesses
- *MP1-BM-6-TE6* Working capital management and financial ratios
- *MP1-BM-6-TE7* Financial controls and compliance
- *MP1-BM-6-TE8* Taxation for small businesses and company set up
- *MP1-BM-6-TE9* Procurement management
- *MP1-BM-6-TE10* Quoting for jobs, and understanding the different components that need to be considered when quoting
- *MP1-BM-6-TE11* Financial technologies and tools, this would include: procurement technologies, accounting software, expense management software, etc

### Learning Outcomes

- *MP1-BM-6-LO1* Participant can read and interpret financial statements
- *MP1-BM-6-LO2* Participant can build a cash flow forecast
- *MP1-BM-6-LO3* Participant can build a budget
- *MP1-BM-6-LO4* Participant knows how to manage working capital
- *MP1-BM-6-LO5* Participant is aware of South African financial compliance, such as small business tax, income tax, etc
- *MP1-BM-6-LO6* Participant is aware of tools and best practices around procurement management
- *MP1-BM-6-LO7* Participant can successfully quote for a job, and is able to differentiate fixed and variable costs associated with the job, as well as margins and pricing.
- *MP1-BM-6-LO8* Participant is aware of financial tools that can be used within the business, such as invoicing software, procurement software, etc

### Assessment Criteria

- *MP1-BM-6-AC1* Participant will need to be able to put together a financial business case for a project, initiative or business. This should include: cash flows, investment needed, return on investment, financial tool required for the project, etc.

## MP1-BM-7 Team Management, Strategy & Systems

### Topic Elements / Content Specifications

- *MP1-BM-7-TE1* Introduction to management and different management styles. This would include theories such as: Theory X, Theory Y, etc.
- *MP1-BM-7-TE2* Creating effective team and team dynamics. This would include topics such as: Belbin Team Roles, Tuckman's stages of group development
- *MP1-BM-7-TE3* Change management and best practises. Including theoretical frameworks such as Kotter and Schlesinger's six methods of dealing with

resistance to change; Kurt Lewin - the 3 stage process; Johnson and Scholes' change management matrix, etc. As well as the change management process

- *MP1-BM-7-TE4* Introduction to strategy and different approaches to strategy formation: The Rational Planning process; Incremental approaches; Freewheeling Opportunism; Emergent strategies; Resource Based View (RBV) Positioning View (PA); etc
- *MP1-BM-7-TE5* Different types of strategies. This would encompass theories such as: Michael Porter's competitive generic strategies; The Ansoff matrix
- *MP1-BM-7-TE6* Introduction to processes and system design
- *MP1-BM-7-TE7* Designing processes and systems. This would include topics such as using technologies to solve problems, systems analysis, etc
- *MP1-BM-7-TE8* System implementation. This would include system selection, implementation process, etc. Some of these processes could include logistics and job management technology
- *MP1-BM-7-TE9* System monitor and evaluation. How to monitor systems and how to evaluate newly implemented systems.

### Learning Outcomes

- *MP1-BM-7-LO1* Participant can differentiate between management styles and self identify
- *MP1-BM-7-LO2* Participant can build effective teams
- *MP1-BM-7-LO3* Participant can implement a change management process
- *MP1-BM-7-LO4* Participant is able to create a high level strategy for their business
- *MP1-BM-7-LO5* Participant is able to design, implement, monitor and evaluate a new process or system within their business.

### Assessment Criteria

- *MP1-BM-7-AC1* Participant must implement a new process or system within their business. They will need to implement a new process or systems that aligns with their business strategy, and include a change management process.

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## MP1-BM-8 Risk Management

### Topic Elements / Content Specifications

- *MP1-BM-8-TE1* Defining risk and risk management, and the importance of risk management
- *MP1-BM-8-TE2* How to identify risks and the different types of risk
- *MP1-BM-8-TE3* What are the different responses to risk and how to mitigate risk, using frameworks such as the TARA framework and risk mapping
- *MP1-BM-8-TE3* COSO (Committee of Sponsoring Organisations) framework for ERM (Enterprise Risk Management)
- *MP1-BM-8-TE5* What is corporate governance; corporate governance in South Africa; and global corporate governance best practise

### Learning Outcomes

- *MP1-BM-8-LO1* Participant can define risk management and can articulate the importance of managing risk
- *MP1-BM-8-LO2* Participant can identify and categorise risks within their business
- *MP1-BM-8-LO3* Participant can create a strategy to mitigate risk and respond to risk
- *MP1-BM-8-LO4* Participant understands the COSO framework for ERM, and can apply this framework to their own business
- *MP1-BM-8-LO5* Participant can identify global corporate governance best practises and what this means in the South African context

### Assessment Criteria

- *MP1-BM-8-AC1* Participant can take their own business through the COSO framework for ERM
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### Final Module Assessment

Project based: participant conducts a diagnosis of their business using the various units covered in the module, and prepares a written / presented analysis of this. Participant chooses one element to focus on and puts together a plan for implementing a new business technology / new strategy within this element of their business in line with their learnings. Participant implements this change and presents on the impact of it.

# LEADERSHIP & ETHICS

## Module MP2-LE - 20 credits

### MODULE OVERVIEW

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#### Module Vision and Objectives

A core element of the Master Plumber Designation is that they are respected and seen as leaders in the industry. As such they need to be empowered with the knowledge and tools to lead across a variety of situations. This module is all about developing leadership in Master Plumbers. Participants should be encouraged to realise that, as this module contains a lot of “internal” work, they will get as much out of it as they put in. They will engage with self leadership, learning more about how they regulate and motivate themselves, as well as people leadership, learning to inspire and go beyond just managing their people, and systems leadership, learning how to lead organisations. This module will enable master plumbers to become more than just managers, but rather leaders in their organisation and in the industry. Additionally the unit on ethics ensures that they are able to lead ethically, and that they are role models for the industry. In addition the negotiation and conflict resolution unit equips Master Plumbers with the skills they need to deal with situations of conflict and negotiation that may arise in their workplaces.

#### A Note on Assessments

Each subsection has assessment criteria listed, these are intended to be formative assessments conducted during the course of the training, in whatever format the training provider sees fit. As this module is largely self reflective and involves a lot of “internal” work that is not as immediately measurable as other modules, training providers can choose to use reflections and role plays as formative assessments for this module. In addition, there is a final module assessment criteria listed, this is intended as a summative assessment for the module and designates pass / fail of the module.

#### Module Units

MP2-LE-1	Self Leadership
MP2-LE-2	People Leadership
MP2-LE-3	Systems Leadership
MP2-LE-4	Business Ethics
MP2-LE-5	Negotiation & Conflict Resolution

# CURRICULUM

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## MP1-LE-1 Self Leadership

### Topic Elements / Content Specifications

- *MP2-LE-1-TE1* Introduction to Leadership: what does it mean to be a leader, and why is it important
- *MP2-LE-1-TE2* Emotional Intelligence: What is emotional intelligence or EQ and why is it important? Introduction to self awareness and self regulation as part of this.
- *MP2-LE-1-TE3* Self awareness: understanding what makes you act and react in the ways you do
- *MP2-LE-1-TE4* Self regulation: what to do with this understanding and how to manage your emotions and behaviour
- *MP2-LE-1-TE5* Self motivation: using this awareness and regulation to impact your motivation
- *MP2-LE-1-TE6*: Core Values: what are values, why are they important, and how to identify your own core values

### Learning Outcomes

- *MP2-LE-1-LO1* Participant can articulate the concepts of self awareness, self regulation, self motivation and empathy, and reflect on these with regards to themselves
- *MP2-LE-1-LO2* Participant can identify changes in themselves based on these new understandings and can give examples of what is different

### Assessment Criteria

- *MP2-LE-1-AC1* Participants identify a specific situation or relationship that they find difficult within the workplace, reflect on how to change their behaviour in order to change the situation and develop a plan to do so
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## MP2-LE-2 People Leadership

### Topic Elements / Content Specifications

- *MP2-LE-2-TE1*: Social Skills and empathy: applying the learnings from the first unit within your context and social interactions
- *MP2-LE-2-TE2*: Feedback: the importance of feedback and how to give and receive it effectively. Includes frameworks such as the GROW and SMART models also covered in coaching
- *MP2-LE-2-TE3*: Leading vs Managing: what's the difference, and why lead, rather than just manage?

- *MP2-LE-2-TE4*: Leadership styles, examples and applications, including: democratic leadership, autocratic leadership, laissez-faire leadership, bureaucratic leadership, servant leadership, transactional leadership, coaching leadership, strategic leadership, transformational leadership, charismatic leadership, situational leadership etc.
- *MP2-LE-2-TE5*: Values-driven leadership: what is it, how to create common values, and why it is powerful

### Learning Outcomes

- *MP2-LE-2-LO1* Participant can demonstrate understanding and application of social skills and empathy, using situations from their real life
- *MP2-LE-2-LO2* Participant can correctly apply feedback models, and articulate when and how to give feedback, as well as why it is important
- *MP2-LE-2-LO3* Participant knows and can explain the difference between leading and managing, and why it is important
- *MP2-LE-2-LO4* Participant can correctly identify and articulate the various styles of leadership using real world examples
- *MP2-LE-2-LO5* Participant can self reflect on their own leadership style and plan for any changes
- *MP2-LE-2-LO6* Participant can articulate what values driven leadership is, why it is important and how to implement it in their own organisation

### Assessment Criteria

- *MP2-LE-2-AC1* Analyse the leadership style of someone they know personally, giving examples, and reflecting on what they would do differently / the same - in a written or verbal format, using the concepts above
- *MP2-LE-2-AC2* Reflect on own leadership style using real examples, using the concepts above, and analyse anything they would want to do differently given what they have learnt

## MP2-LE-3 Systems Leadership

### Topic Elements / Content Specifications

- *MP2-LE-3-TE1* Building a vision and understanding the importance of having a company vision
- *MP2-LE-3-TE2* Understanding and building a values driven organisation
- *MP2-LE-3-TE3* Building a leadership driven team, including: developing a sense of ownership and self motivation in your team
- *MP2-LE-3-TE4* Developing, setting and tracking effective SMART goals
- *MP2-LE-3-TE5* Leading organisations by building systems. Including: Being proactive rather than reactive; solving for the system and not the individual, etc.
- *MP2-LE-3-TE6* Systems thinking - seeing and thinking of organisations as interconnected and not isolated

### Learning Outcomes

- *MP2-LE-3-LO1* Participant can create a company vision
- *MP2-LE-3-LO2* Participant can set effective goals for their business
- *MP2-LE-3-LO3* Participant can articulate what a values driven business is, why it is important, and can reflect on whether their own business is values driven
- *MP2-LE-3-LO4* Participant can solve business challenges by building systems

### Assessment Criteria

- *MP2-LE-3-AC1* Participant will present on organisation / team goals that they have set for a period of time. This should include links to the company's vision, company's goals, and how identifying how these goals will affect the organisation from a systemic point of view.
  - *MP2-LE-3-AC2* Participant identifies a manual process from their real environment that can be turned into a system and puts together a plan for how to achieve this
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## MP2-LE-4 Business Ethics

### Topic Elements / Content Specifications

- *MP2-LE-4-TE1* The importance of ethics: the business case for ethics
- *MP2-LE-4-TE2* Understanding ethics: business ethics, business values, common business dilemmas, ethics and the law, personal vs professional ethics
- *MP2-LE-4-TE3* Ethics and good governance: board ethics committees, risk management and ethics, building an ethical company culture, codes of ethics
- *MP2-LE-4-TE4* Ethical and values-based decision making

### Learning Outcomes

- *MP2-LE-4-LO1* Participant understands and can articulate why ethics are important for a business and what ethics are
- *MP2-LE-4-LO2* Participant knows how ethics fit into a business environment and can talk about the different structures that support ethical behaviour within a business (board ethics committees, ethical culture, code of ethics, ethical decision making)
- *MP2-LE-4-LO3* Participant can identify common business ethical dilemmas and is equipped with the tools to resolve them / think through them

### Assessment Criteria

- *MP2-LE-4-AC1* In class scenarios: participants can work through role plays and scenarios in class using the skills learnt above
- *MP2-LE-4-AC2* Real world assessment: participants identify real ethical dilemmas from their own businesses and prepare and deliver a presentation on them, as well as how to resolve them

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## MP2-LE-5 Negotiation & Conflict Resolution

### Topic Elements / Content Specifications

- *MP2-LE-5-TE1* Introduction to conflict, and the major causes of conflict in the workplace
- *MP2-LE-5-TE2* The five modes of responding to conflict: competing, collaborating, compromising, avoiding and accommodating
- *MP2-LE-5-TE3* Roles played in conflict: negotiator, decision maker, mediator / facilitator
- *MP2-LE-5-TE4* Introduction to negotiation, and what is it
- *MP2-LE-5-TE5* The three ways / styles to negotiate: hard, soft and principled
- *MP2-LE-5-TE6* The three stages of negotiation: analysis, planning, and discussion
- *MP2-LE-5-TE7* Best practises, strategies and tips for negotiation
- *MP2-LE-5-TE8* Arbitration practices and practicalities in South Africa

### Learning Outcomes

- *MP2-LE-5-LO1* Participant can identify the major causes of conflict in the workplace
- *MP2-LE-5-LO2* Participant understands the different responses to conflict, and understands the reason behind each one
- *MP2-LE-5-LO3* Participant understands the different roles played in conflict
- *MP2-LE-5-LO4* Participant understands the three styles of negotiation and when to use each
- *MP2-LE-5-LO5* Participant can build a negotiation strategy that incorporates the three stages of negotiation, best practices and tips

### Assessment Criteria

- *MP2-LE-5-AC1* Participant will need to write a reflective piece on a recent conflict where they were part of the negotiation. They will need to self evaluate where they did well and where they failed in the process, along with how to improve in the future

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## Final Module Assessment

Project based: participant conducts a leadership analysis of their business, reflecting on their own leadership style within the business, as well as that of those around them. Participant identifies opportunities for improvement and prepares a plan for implementing these.

# TRAINING & MENTORING

## Module MP3-TM - 20 credits

### MODULE OVERVIEW

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#### Module Vision and Objectives

This module is intended to develop the skills and competencies relating to people development in participants. Given that Master Plumbers are seen as leaders, role models and experts in their field, it is essential that they are able to guide and develop young practitioners. This module will introduce the participant to coaching and mentoring, and equip them with the skills to have coaching conversations, and develop mentorship relationships. In addition, this module will enable participants to plan and manage apprenticeships effectively, and to understand the underlying theory behind how we learn, as well as equip them with the tools to structure learning experiences.

#### A Note on Assessments

Each subsection has assessment criteria listed, these are intended to be formative assessments conducted during the course of the training, to demonstrate that the learning outcomes have been met. These formative assessments can be structured as the training provider sees fit, as long as the LOs are met. The assessment criteria serve as guidelines for these formative assessments. In addition, there is a final module assessment criteria listed, this is intended as a summative assessment for the module and designates pass / fail of the module.

#### Module Units

MP3-TM-1	Coaching
MP3-TM-2	Mentoring
MP3-TM-3	Planning & Managing Apprenticeships
MP3-TM-4	How we Learn / Training

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#### MP3-TM-1 Coaching

##### Topic Elements / Content Specifications

- *MP3-TM-1-TE1* What is coaching? Difference between coaching, mentoring, therapy and consulting.

- *MP3-TM-1-TE2* Coaching best practices e.g.: effective listening, asking probing questions, not giving advice etc.
- *MP3-TM-1-TE3* Coaching Frameworks: OSKAR, GROW, EASY, STEP, SMART, CLEAR
- *MP3-TM-1-TE4* Benefits of coaching and when to have coaching conversations.

### Learning Outcomes

- *MP3-TM-1-LO1* Participant understands and can clearly articulate the difference between coaching, mentoring, therapy and consulting.
- *MP3-TM-1-LO2* Participant can have a coaching conversation.
- *MP3-TM-1-LO3* Participant has had coaching conversations in the workplace, and can reflect on what went well and what they would change.
- *MP3-TM-1-LO4* Participant understands and can articulate when a coaching conversation is appropriate.
- *MP3-TM-1-LO5* Participant can name and explain the different coaching frameworks, and can give real life examples of when it would be appropriate to use them.
- *MP3-TM-1-LO6* Participant can clearly articulate the benefits of using coaching in the workplace.

### Assessment Criteria

- *MP3-TM-1-AC1*: Controlled environment assessment: participant can demonstrate ability to identify the right type of intervention (coaching, mentoring, therapy etc.), carry out a coaching conversation using appropriate frameworks, and can reflect on the efficacy of the conversation. This can be through a roleplay, a written reflection, a presentation or any other appropriate form of assessment.
  - *MP3-TM-1-AC2*: Real life example assessment: as above, using a real example from participant's business or work environment, with a structured reflection / presentation on the experience.
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## MP3-TM-2 Mentoring

### Topic Elements / Content Specifications

- *MP3-TM-2-TE1* What is mentoring? Difference between coaching, mentoring, therapy and consulting.
- *MP3-TM-2-TE2* Mentoring key skills: e.g. Active Listening, Building Trust, Determining Goals, Building Capacity, Encouraging and Inspiring
- *MP3-TM-2-TE3* Roles of a mentor: advocates, acquires resources, acts as a role model, advises, coaches, protects, supports etc.
- *MP3-TM-2-TE4* Benefits of mentoring and when to mentor.

### Learning Outcomes

- *MP3-TM-2-LO1* Participant can demonstrate application of key mentoring skills.

- *MP3-TM-2-LO2* Participant understands and can clearly articulate the difference between mentoring, coaching, therapy and consulting.
- *MP3-TM-2-LO3* Participant understands and can clearly articulate the roles of a mentor, how these are beneficial, and when these would be appropriate.

#### **Assessment Criteria**

- *MP3-TM-2-AC1* In class assessment: identify opportunities to mentor and put together a mentorship plan.
  - *MP3-TM-2-AC2* Real life example assessment: participant enters into a mentorship relationship (if not already in one), implements mentorship skills learnt, produces a structured reflection / presentation
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### **MP3-TM-3 Planning & Managing Apprenticeships**

#### **Topic Elements / Content Specifications**

- *MP3-TM-3-TE1* Overview of apprenticeships: what are they, what are the benefits of having apprentices in the workplace, and what is the business case for having apprentices.
- *MP3-TM-3-TE2* How an apprentice is different from other employees, and what are the legislative requirements for employing an apprentice.
- *MP3-TM-3-TE3* Apprenticeship best practices and how to run a successful apprenticeship: job descriptions, company training needs, support structures, roles within the apprenticeship (e.g. managers, mentors, etc), finding a training provider, interviewing and matching apprentices, etc.
- *MP3-TM-3-TE4* Skills Planning for apprentices including: skills assessment, skills mapping and skills planning for apprentices.
- *MP3-TM-3-TE5* Designing and implementing performance management for apprentices.
- *MP3-TM-3-TE6* Career guidance and advice
- *MP3-TM-3-TE7* Workforce planning focusing on apprentices
- *MP3-TM-3-TE8* Stakeholders in the apprenticeship environment: including SETAs, TVETs, QCTO, Private Colleges etc.

#### **Learning Outcomes**

- *MP3-TM-3-LO1* Participants are able to advocate for apprenticeships within their business, using a business case
- *MP3-TM-3-LO2* Participants are able to explain the basic legislation governing apprenticeships, and know how to find further details
- *MP3-TM-3-LO3* Participants can design and implement an apprenticeship programme that utilises best practices, skills planning, performance management and career development skills as learnt in the course
- *MP3-TM-3-LO4* Participants are able to plan for the future apprenticeship needs of their business

- *MP3-TM-3-LO5* Participants are able to prepare a workforce plan allocating capacity for management of apprentices, as well as capacity while apprentices are offsite

#### **Assessment Criteria**

- *MP3-TM-3-AC1* Participant creates a workforce plan focused on apprentices
  - *MP3-TM-3-AC2* Participant designs a best in class apprenticeship programme taking into account workforce plan and legislative requirement
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## **MP3-TM-4 How we Learn / Training**

### **Topic Elements / Content Specifications**

- *MP3-TM-4-TE1* Basic principles of learning, how people take in and retain information
- *MP3-TM-4-TE2* Learner-centred vs teacher-centred
- *MP3-TM-4-TE3* Planning teaching experiences and assessing needs
- *MP3-TM-4-TE4* Structuring a learning experience: using a test-teach-test or present-practice-produce approach
- *MP3-TM-4-TE5* Using and designing activities for learning
- *MP3-TM-4-TE6* Asking questions: different types of questions and when they should be used: eliciting responses, complete the sentence, checking for understanding etc.
- *MP3-TM-4-TE7* Listening effectively for teaching: reflecting back to learners, paraphrasing and summarising, affirmation
- *MP3-TM-4-TE8* Facilitating: observing group dynamics, facilitator interventions, handling disruptions, handling objections
- *MP3-TM-4-TE9* Assessing learning effectively

### **Learning Outcomes**

- *MP3-TM-4-LO1* Participant understands the difference between learner-centred and teacher-centred learning, and can give examples of each
- *MP3-TM-4-LO2* Participant can apply the methodology of planning a learning experience, structuring that experience, and designing activities appropriately using a real life example
- *MP3-TM-4-LO3* Participant can demonstrate effective facilitation techniques in a simulated environment
- *MP3-TM-4-LO4* Participant can design appropriate assessments

### **Assessment Criteria**

- *MP3-TM-4-AC1* Controlled environment: participant can structure a learning environment relative to their real world experience using the above methodologies, and demonstrate execution of the relevant skills.

- *MP3-TM-4-AC2* Real life assessment: participant can use a real example of an apprentice or team member within their environment, and structure a learning experience for them using the above methodologies
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## **Final Module Assessment**

Project based assessment: Participant structures a people development plan for their organisation, assessing needs and demonstrating where coaching and mentorship are needed, as well as structuring an apprenticeship management plan, using training methodology as above. This can be structured as a written plan or presented, at the training provider's discretion. An additional option for assessment is to require participants to prepare and deliver a webinar or prepare an address for an IOPSA plumbers meeting.

# APPLIED PLUMBING PRINCIPLES

## Module MP4-APP - 20 credits

### MODULE OVERVIEW

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#### Module Vision and Objectives

This module focused on the technical and application elements of the Master Plumber curriculum. A Master Plumber is someone who is seen as an industry leader, and the person that others come to for advice. As such they need to be plugged in to what is happening within the industry and knowledgeable even beyond their own experience. The Master needs to be able to have a birds eye view on the trends and changes in the plumbing industry, while still being able to dive down into the detail. With regards to the relevant Codes and Standards, the Master is always the final quality check within their company and the industry, and the person everyone will ask the tough questions of - as such they need to be equipped with the knowledge and understanding of application to be able to answer these questions. In addition, as they hold positions of authority and prestige within the industry, as a Master they are the person that practitioners from across the industry would come to, to ask questions about different kinds of projects and how to approach them. As such the Master should be able to advise on a variety of different projects, or know where to point people if they need particular expertise or advice (for example to another Master they know who has this expertise). Masters should additionally be equipped to take on a more substantive and strategic role within construction teams, and should be able to work on the design phase. And finally, Masters should be aware of plumbing trends, not only in terms of knowing what has happened in the past, but also best practice globally and where the future of plumbing is going.

#### A Note on Assessments

Each subsection has assessment criteria listed, these are intended to be formative assessments conducted during the course of the training, in whatever format the training provider sees fit. In addition, there is a final module assessment criteria listed, this is intended as a summative assessment for the module and designates pass / fail of the module.

#### Module Units

- MP4-APP-1 Codes & Standards
- MP4-APP-2 Design & Construction Projects
- MP4-APP-3 Plumbing Technology Trends

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## MP4-APP-1 Codes & Standards

### Topic Elements / Content Specifications

- *MP4-APP-1-TE1* Plumbing codes and standards for installation: National Building Regulation 10400, Occupational Health and Safety Act, SANS Codes 10252 part 1, 10252 part 2, 10254, 10106, 1352 - together with the relevant sections of the Consumer Protection Act in order to highlight the importance of correctly applying the codes and standards
- *MP4-APP-1-TE2* Manufacturer / product related codes e.g. SANS 151, SANS 460, SANS 10400, SANS 1307, SANS 198, SABS and SA Watermark as they relate to compliance of products
- *MP4-APP-1-TE3* Application of all Codes and Standards in designing new systems
- *MP4-APP-1-TE4* Application of all Codes and Standards in repairs and maintenance of existing systems, particularly when it comes to matching old and new systems
- *MP4-APP-1-TE5* Dealing with non-compliant situations in existing systems, your responsibility as a Master Plumber, the legalities and the ethics of dealing with these situations
- *MP4-APP-1-TE6* Training apprentices / new recruits on the Codes and Standards
- *MP4-APP-1-TE7* Interpreting the Codes and Standards with regards to updated and changing technology
- *MP4-APP-1-TE8* Understanding the plumbing professional bodies, associations and international organisations

### Learning Outcomes

- *MP4-APP-1-LO1* Participant demonstrates a good working knowledge of the core codes and standards, as well as an awareness of the manufacturer / product related codes with regards to compliance
- *MP4-APP-1-LO2* Participant is able to identify the correct code or standard to be applied in various specific situations, and can advise on how to apply these
- *MP4-APP-1-LO3* Participant can apply the codes and standards in different scenarios including: new design and installation, repairs and maintenance, and updating for the times
- *MP4-APP-1-LO4* Participant's approach to training new recruits on the codes and standards helps build their competency, rather than "doing it for them"

### Assessment Criteria

- *MP4-APP-1-AC1* In class assessment: Participant can apply codes and standards correctly in a variety of situations (including designing new systems, installations, repairs and maintenance)

- *MP4-APP-1-AC2* Real life assessment: Participant can identify a situation within their real work where codes and standards need to be applied in an unusual way and present this (either verbally, in writing or otherwise).
  - *MP4-APP-1-AC3* Within a simulated or real environment, participant can plan and execute training on the codes and standards for apprentices / new recruits.
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## MP4-APP-2 Design & Construction Projects

### Topic Elements / Content Specifications

- *MP4-APP-2-TE1* Applying codes and standards to construction projects: sizing of pipes, required storage etc.
- *MP4-APP-2-TE2* Applying codes and standards to residential construction projects: e.g. basic vs luxury vs multi housing projects etc.
- *MP4-APP-2-TE3* Applying codes and standards to commercial construction projects: e.g. shopping centres, hotels, office blocks etc.
- *MP4-APP-2-TE4* Applying codes and standards to industrial construction projects: e.g. factories, manufacturing environments etc.
- *MP4-APP-2-TE5* Awareness of special construction projects: e.g. hospitals, bakeries, mortuaries etc.
- *MP4-APP-2-TE6* Awareness of the civils processes that go into large construction projects such as common mainlines, stormwater lines, sewage treatment lines, water purification plants, pumping stations, sewer lift stations etc.
- *MP4-APP-2-TE7* End to end construction project processes and roles, and where the plumber and Master Plumber fits in / should fit in

### Learning Outcomes

- *MP4-APP-2-LO1* Participant understands the role of a plumber in all phases of a construction project and can demonstrate these
- *MP4-APP-2-LO2* Participant can demonstrate correct application of codes and standards in various types of projects including residential, commercial and industrial
- *MP4-APP-2-LO3* Participant is aware of special construction projects and the need for further input in these projects
- *MP4-APP-2-LO4* Participant can demonstrate unusual application of codes and standards in at least one type of special construction project
- *MP4-APP-2-LO5* Participant understands the end to end construction process and can explain where the plumber should fit in this process
- *MP4-APP-2-LO6* Participant can articulate the various roles in the construction team, who the plumber will need to work directly with, and in what capacity
- *MP4-APP-2-LO7* Participant is aware of new trends in construction and can demonstrate competency in at least one of these

### Assessment Criteria

- *MP4-APP-2-AC1* When given various types of construction project plans and drawings, participant can identify issues and make recommendations in line with the codes and standards
  - *MP4-APP-2-AC2* Participant researches and presents on one type of special construction project, becoming an “expert” in this area
  - *MP4-APP-2-AC3* Participant identifies in a construction project plan who will be involved when and particularly when they as a plumber would be involved
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## MP4-APP-3 Plumbing Technology Trends

### Topic Elements / Content Specifications

- *MP4-APP-3-TE1* Changing trends in materials used in plumbing: e.g. PVC to HDPE, galvanised to copper to PVC to multilayer, etc.
- *MP4-APP-3-TE2* Application of Codes and Standards when it comes to different materials and matching old to new etc.
- *MP4-APP-3-TE3* Changing trends in sanitary ware: e.g. baths and toilets with electrical components etc.
- *MP4-APP-3-TE4* Green plumbing practices such as alternative heating energy / technologies including solar, heat pump, gas; alternative / non-potable water usages including stormwater runoff, sewage treatment, recycling water etc.
- *MP4-APP-3-TE5* Changing trends in plumbing tools and equipment: e.g. drain cleaning rods and springs to cameras and mechanised drain unblockers, leak detection equipment, relining of pipes etc.
- *MP4-APP-3-TE6* Changing trends in how plumbing systems are designed, and a basic understanding of new technologies, e.g. CAD software

### Learning Outcomes

- *MP4-APP-3-LO1* Participant understands trends in plumbing materials, from old materials to new, and how to work with these in combination and with correct application of the codes and standards
- *MP4-APP-3-LO2* Participant is aware of trends in sanitary ware and plumbing equipment
- *MP4-APP-3-LO3* Participant knows how to find out about new plumbing equipment, and has practised researching a new plumbing technology

### Assessment Criteria

- *MP4-APP-3-AC1* Research project: participant researches a new technology, either a piece of plumbing equipment or a new product on the market, that is not commonly used in their environment, and prepares a written presentation on this product

- *MP4-APP-3-AC2* Participant can correctly identify real life examples of changing plumbing trends and the applications of codes for these
  - *MP4-APP-3-AC3* Participant will need to demonstrate that they have attended at least 2 manufacturer courses on new technology throughout the year
- 

### **Final Module Assessment**

Project based: participant identifies a real world construction project, (either one they are currently working on, or if they do not work in construction plumbing with the help of the training provider) and prepares a presentation on this project showing correct application of codes and standards, the plumber's role in the construction team, any new plumbing technology trends being utilised in this project, and makes suggestions for improvements on design as well as incorporation of new technologies and trends.

# APPENDIX

## MASTER PLUMBER APPLICATION FORM / PORTFOLIO OF EVIDENCE

### Personal Information

First Name:	Middle Name/s:	Last Name:
Title: Ms <input type="checkbox"/> Miss <input type="checkbox"/> Mrs <input type="checkbox"/> Mr <input type="checkbox"/> Prof <input type="checkbox"/> Dr <input type="checkbox"/> Rev <input type="checkbox"/> Mx <input type="checkbox"/> Other.....	Previous Names (if applicable):	
Residential Address:		
Postal Address:		
Cell Phone Number:	Alternative Phone Number:	Work Phone Number:
Email Address:	ID Number:	Passport Number:
Date of Birth:	Nationality:	PIRB Registration Number:

### Education Information

Highest equivalent level of formal education:			
< Grade 10 (NQF2) <input type="checkbox"/>	Grade 10 (NQF2) <input type="checkbox"/>	Grade 12 (NQF4) <input type="checkbox"/>	
Higher Certificate (NQF5) <input type="checkbox"/>	Diploma (NQF6) <input type="checkbox"/>	Degree (NQF7) <input type="checkbox"/>	
Post Graduate (NQF8) or above <input type="checkbox"/>			
Qualifications (most recent first):			
Name of Institution and	Qualification Obtained:	Start date:	End date:

Location:			
Name of Institution and Location:	Qualification Obtained:	Start date:	End date:
Name of Institution and Location:	Qualification Obtained:	Start date:	End date:
Name of Institution and Location:	Qualification Obtained:	Start date:	End date:
Name of Institution and Location:	Qualification Obtained:	Start date:	End date:

\*please make sure to attach proof of qualification/s / completion certificates

### Work Experience

Work Experience (most recent first):			
Name and address of employer:	Position title and duties:	Start date:	End date:
Name and address of employer:	Position title and duties:	Start date:	End date:
Name and address of employer:	Position title and duties:	Start date:	End date:
Name and address of employer:	Position title and duties:	Start date:	End date:
Name and address of employer:	Position / title and duties:	Start date:	End date:

### **Short Essays**

1. Please demonstrate that you have mastered the technical aspects of the plumbing industry, and have a breadth of experience within the industry. You can do this by writing about your experience and some of the various types of projects you have worked on (between 200 and 500 words)

2. Please demonstrate how you have shown leadership within your organisation or within the plumbing industry (between 200 and 500 words)

### **Special Request for Exemptions**

#### Exemption 1

1. Which specific module are you requesting to be exempted from
2. Reason for request

#### Exemption 2

1. Which specific module are you requesting to be exempted from
2. Reason for request

**References**

Name:	Relationships and reason for being listed as a reference:	Contact email address:	Contact phone number:
Name:	Relationships and reason for being listed as a reference:	Contact email address:	Contact phone number:
Name:	Relationships and reason for being listed as a reference:	Contact email address:	Contact phone number: