



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Manufacturing And Assembly Material Requirements Planning Training

Manufacturing, Engineering and Technology / Manufacturing and Assembly

Unit Standard 116294 · NQF Level 4 · 12 Credits · 9 Days

COURSE OVERVIEW

This course equips learners with the skills to apply material requirements planning (MRP) principles in manufacturing and assembly environments. Participants will learn to manage inventory, schedule production, and coordinate supply chain activities to optimize efficiency and meet customer demand.

Category	Manufacturing, Engineering and Technology
Subfield	Manufacturing and Assembly
Unit Standard	116294
Accreditation	SAQA Accredited · NQF Level 4 · 12 Credits
Duration	9 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply MRP principles to determine material requirements based on production schedules.
- Analyze inventory data to calculate net requirements and plan procurement.
- Implement MRP software tools to generate purchase orders and work orders.
- Evaluate production plans to identify potential shortages and propose corrective actions.
- Demonstrate the ability to coordinate with suppliers to ensure timely material delivery.
- Design a basic MRP schedule for a manufacturing assembly process.

WHO SHOULD ATTEND

- This course is designed for production planners, inventory controllers, supply chain coordinators, and manufacturing supervisors seeking to enhance their MRP competencies.

COURSE OUTLINE

Day 1: Introduction to Material Requirements Planning (MRP)

- Overview of manufacturing planning and control.
- Definition and objectives of MRP.
- Key inputs: Bill of Materials (BOM), Master Production Schedule (MPS), Inventory Records.
- Dependent vs. independent demand.
- MRP outputs: Planned orders, order releases, rescheduling notices.
- Benefits of MRP: reduced inventory, improved efficiency.

Day 2: Bill of Materials (BOM) and Product Structure

- BOM definitions and types.
- Product structure trees and levels.
- Creating and reading a multi-level BOM.
- BOM explosion process.
- Using BOM for cost estimation and planning.
- Common BOM errors and how to avoid them.

Day 3: Master Production Schedule (MPS)

- Purpose of MPS in manufacturing.
- MPS inputs: forecasts, orders, capacity constraints.
- Time fences: demand, planning, and frozen.
- MPS creation process.
- MPS vs. aggregate planning.
- Using MPS to generate gross requirements.

Day 4: Inventory Records and Accuracy

- Inventory record accuracy requirements.
- Cycle counting vs. physical inventory.
- ABC classification and its impact on counting frequency.
- Safety stock calculation.
- Reorder point (ROP) and economic order quantity (EOQ).
- Inventory valuation methods and their effect on MRP.

Day 5: MRP Logic and Net Requirements Calculation

- MRP logic: gross to net requirements.
- Scheduled receipts and planned orders.
- Lot-sizing techniques: lot-for-lot, fixed order quantity, period order quantity.
- MRP grid example: manual calculation.
- Lead time offsetting.
- Rescheduling and exception messages.

Day 6: Capacity Requirements Planning (CRP)

- Overview of CRP and its inputs.
- Load profiles and capacity calculations.
- Rough-cut capacity planning (RCCP).
- Capacity vs. load analysis.
- Bottleneck identification and management.

- Adjusting MPS or capacity to resolve issues.

Day 7: MRP System Implementation and Data Integrity

- Implementation phases: planning, data collection, testing, go-live.
- Data integrity: BOM accuracy, inventory accuracy, MPS stability.
- MRP software features and selection criteria.
- Change management and training.
- Pitfalls: garbage in, garbage out (GIGO).
- Case studies of successful implementations.

Day 8: Advanced MRP Topics and Integration

- MRP II: Manufacturing Resource Planning.
- Closed-loop MRP: feedback from shop floor and suppliers.
- Integration with purchasing and supplier scheduling.
- Integration with production activity control (PAC).
- Financial integration: cost accounting and budgeting.
- MRP performance metrics: inventory turnover, schedule adherence.

Day 9: Practical Application and Final Assessment

- Hands-on MRP simulation using a case study.
- Complete MRP run: BOM explosion, net requirements, lot sizing, CRP.
- Review of exception messages and corrective actions.
- Group exercise: MRP system design recommendations.
- Final assessment: multiple-choice and practical problems.
- Course wrap-up and Q&A.

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **12 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 33,300.00	R 33,300.00
1	In-House	R 43,300.00	R 43,300.00
1	On-Campus (Pretoria)	R 50,000.00	R 50,000.00

UPCOMING SESSIONS

Start	End	Method	Venue
05 Aug 2026	17 Aug 2026	On-Campus	Mauritius
06 Aug 2026	18 Aug 2026	On-Campus	Cape Town, South Africa
07 Aug 2026	19 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	20 Aug 2026	On-Campus	Abu Dhabi, UAE
11 Aug 2026	21 Aug 2026	On-Campus	Durban, South Africa
11 Aug 2026	21 Aug 2026	On-Campus	Mauritius
12 Aug 2026	24 Aug 2026	On-Campus	Cape Town, South Africa
13 Aug 2026	25 Aug 2026	On-Campus	Dubai, UAE

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 116294) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call **+27 12 004 8389** or WhatsApp **+27 65 077 6310** and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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