

A NOTE FROM THE OFFICE OF THE CEO

The Graduate Development Programme (GDP) was established in order to increase the number of technical graduates from Universities and Technikons with the necessary training and qualifications required for employment in the scarce skills areas of the Mining and Minerals Sector. The programme was established by the Mining Qualifications Authority (MQA) to provide structured two years industry experience to unemployed graduates from historically disadvantaged backgrounds as a response to the equity targets of the Mining Charter.

The GDP launched in September 2004 and the first candidates were placed in the programme in January 2005. To date, the programme has 113 candidates that are placed with different companies in the Sector undergoing training.

To incentivise companies that host these candidates, the MQA makes available an amount of R165 000 per candidate per year to cover the costs of training, allowances, and a variety of other requirements.

To ensure that the programme is implemented professionally and guidance is given to hosting companies and candidates, the MQA set up a representative Task Team to develop Programme Requirements for the 11 different disciplines of the MQA GDP. The Task Team included representatives from employers, organised labour (NUM), the Department of Minerals and Energy, industry experts with respect to implementation of Graduate Development Programmes, the MQA and a consulting company. Further consultations were done by the consulting company with a variety of industry experts in the different disciplines. Two additional documents that were developed by the Task Team were the GDP Host Employer Implementation Guideline and the GDP Brochure.

The three documents were widely consulted on through four workshops held with all the host employers and participating candidates in late May and early June 2005.

This “MQA Graduate Development Programme (GDP) – Programme Requirements” document is a product of the process explained above.

The document is expected to evolve and be continuously improved as more and new information and lessons learnt are incorporated going forward.

On behalf of the MQA, I would like to extend a word of gratitude to the GDP Task Team members for all the effort and sacrifice they put behind the development of this document. I further extend the gratitude to the host employers of the GDP and the candidates.

I wish all current and future candidates to get the best from this programme.

Yours in Skills Development,

Original signed by the MQA CEO on 17 August 2005

Livhu Nengovhela
Chief Executive Officer

GRADUATE DEVELOPMENT PROGRAMME (GDP) – PROGRAMME REQUIREMENTS

DISCIPLINE	EXIT REQUIREMENTS AND ASSESSMENT CRITERIA	DURATION
<p>1. MECHANICAL</p> <p>2. ELECTRICAL</p> <p>3. ELECTRO-MECHANICAL ENGINEERING.</p>	<ul style="list-style-type: none"> • Candidates must apply for a GCC • Candidates must achieve 100% of Practical Experience and exposure in all other engineering related disciplines • Refer to Annexure E in the GCC rules • Sound working knowledge of the Mine Health & Safety Act. <p><u>Assessment Criteria</u></p> <p>Comprehend and apply advanced knowledge of the widely applied principles underpinning good engineering practice, specialist knowledge and knowledge specific to the jurisdiction and local conditions.</p> <p>This outcome is normally demonstrated in the course of design, investigation or operations. The candidate typically:</p> <ul style="list-style-type: none"> • Displays mastery of understanding of engineering principles, practice and technologies in the practice area; • Applies general and underpinning engineering knowledge to support analysis and provide insight; • Uses an engineering fundamentals, based on first principles; 	<p>2 years</p>

	<ul style="list-style-type: none"> • Displays working knowledge of areas that interact with the practice area; • Applies related knowledge: financial, statutory, safety, and health management. • Exposure to the Mine Health & Safety Act and Regulations. • Conduct his or her engineering activities ethically. • Be responsible for making decisions on part or all of complex engineering activities. 	
<p>4. MINING</p> <p><i>ENGINEERING</i></p> <p>- COAL</p> <p>- METALIFEROUS</p>	<ul style="list-style-type: none"> • Blasting Certificate • Achieve Mine Overseer Certificate - 2 years • 66% towards Mine Manager Certificate of Competency • A sound working knowledge of the Mine Health and Safety Act and Regulations. • Two years practical experience must be gained in the class of mines, For example 500 underground shifts will be required by the Commission of Examiners <p><u>Assessment Criteria</u></p> <p>Comprehend and apply advanced knowledge of the widely applied principles underpinning good engineering practice, specialist knowledge and knowledge specific to the jurisdiction and local conditions.</p>	<p>2 Years</p>

	<p>This outcome is normally demonstrated in the course of design, investigation or operations. The candidate typically:</p> <ul style="list-style-type: none"> • Displays mastery of understanding of mining principles, practice and technologies in the practice area; • Applies general and underpinning mining knowledge to support analysis and provide insight; • Uses mining fundamentals, based on first principles; • Displays working knowledge of areas that interact with the practice area; • Applies related knowledge: financial, statutory, safety, and health management. • Exposure to the Mine Health & Safety Act and Regulations. • Conduct his or her engineering activities ethically. • Be responsible for making decisions on part or all of complex Mining activities. <p>Apply engineering management principles and concepts to engineering activities.</p> <ul style="list-style-type: none"> • Apply entrepreneurial principles to engineering activities • Practice engineering management principles • Formulate and evaluate a project / process plan 	
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<p>5. JEWELLERY DESIGN & MANUFACTURING</p>	<ul style="list-style-type: none"> • Gold Smith Certificate “Artisan Certificate” • Candidates must achieve a 100% Practical Experience and exposure in all other jewellery design and manufacturing related disciplines. • Candidates must spend 3360 hours of learning in the completion of their core training. <p><u>Assessment Criteria</u></p> <p>Forge metal to manufacture Jewellery</p> <ul style="list-style-type: none"> • Prepare metal sheet and bar for forging. • Forge metal into specified forms <p>Manufacture Jewellery for single faceted stone settings</p> <ul style="list-style-type: none"> • Make a piece of Jewellery for a single stone tube setting • Make a piece of Jewellery for a single stone claw setting • Make a piece of Jewellery for a single stone bead setting <p>Manufacture and repair complicated Jewellery</p> <ul style="list-style-type: none"> • Plan the manufacturing process of complicated Jewellery • Plan the repair process of complicated Jewellery • Prepare the components • Assemble prepared components • Execute the finish <p>Set faceted stones in multiple claw or wire settings</p> <ul style="list-style-type: none"> • Prepare to set stones and other organic materials in multiple claw settings 	<p>2 Years</p>
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	<ul style="list-style-type: none"> • Prepare to set stones and other organic materials in wire settings • Set stones and other organic materials in multiple claw and wire settings • Execute the specified finish <p>Hand polish a piece of Jewellery</p> <ul style="list-style-type: none"> • Select the correct polishing equipment, materials and consumables • Polish Jewellery • Clean a polished piece of Jewellery or artifacts <p>Demonstrate knowledge pertaining to basic health and safety principles in an around a workplace</p> <ul style="list-style-type: none"> • Explain the specified requirements for the use an the application of Personal Protective Equipment (PPE) in a workplace • Explain the specified requirements pertaining to the compliance to general safety rules at a workplace. • Explain the specified requirements pertaining to the emergency procedures at a workplace and demonstrate response to the situation. • Explain the specified requirements pertaining to good housekeeping at a workplace. • Explain the specified requirements pertaining to employer and employee’s duties with regards to safety and health in a workplace. 	
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	<p>Manufacture platinum Jewellery</p> <ul style="list-style-type: none"> • Prepare metal for manufacture • Manufacture components for a piece of Jewellery • Assemble the components using heat • Finish the completed piece of Jewellery • Cast Platinum <p>Mass produce Jewellery using lost wax casting techniques</p> <ul style="list-style-type: none"> • Make rubber moulds from models • Produce wax patterns for investment • Invest and cast patterns in metal • Remove and finish metal reproduction • Demonstrate an understanding of the relevant theory and its application during each stage of the lost-wax casting process. • No formal post qualification. An in-house company certificate is issued upon completion. 	
<p>6. METALLURGICAL ENGINEERING</p> <p>7. CHEMICAL ENGINEERING MINERAL PROCESS</p> <p>8. ANALYTICAL CHEMISTRY</p>	<ul style="list-style-type: none"> • Once 2 years is completed, candidate is 2/3 (66%) of the way through practical training towards becoming a professional engineer. <p><u>Assessment Criteria</u></p> <p>Demonstrate competence to use and integrate appropriate mathematical and basic science and engineering principles to solve engineering problems</p> <ul style="list-style-type: none"> • Describe and perform the operation and maintenance of resources/ processes /systems • 	<p>2 Years</p>

	<ul style="list-style-type: none"> • Demonstrate competence to use and apply appropriate measuring instruments and techniques to solve Engineering problems. • Plan, implement, report and improve on engineering processes. • Learn and study crushing, milling, and sampling • Understand the principles of a jigging process and operation • Understand the shaking table principles • Learn chemistry and flotation principles • Learn about properties and selectivity of various flotation reagents as well as sampling procedures • Understand the control of identification, handling, packaging preservation and product storage <p>Spend 1-2 weeks in the materials handling group</p> <ul style="list-style-type: none"> • Control of Identification, handling, packaging, preservation and storage of product. • Follow sample through from delivery to completion etc. <p>Spend time with the group learning the physical separation process, to learn and understand:</p> <ul style="list-style-type: none"> • Chemistry and principles of flotation • Properties and selectivity of different flotation reagents • Sampling, etc • Principles of a jigging process 	
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	<ul style="list-style-type: none"> • Operation of a jigging plant • Shaking table principles • Spirals • Gravity separators e.g. falcon • Classifiers e.g. elutriator • Magnetic separation • Dense medium separation (plant) • Heavy liquids separation (laboratory) • Study about sampling, etc <p>Spend time with the milling group to:</p> <ul style="list-style-type: none"> • Learn about crushing • Study about milling • Study about sampling, etc <p>Gain exposure to (where applicable) or all of the main processes in the Mineralogical Division</p> <ul style="list-style-type: none"> • Sample preparation • Surface area analysis • X-ray diffraction analysis • Optical microscopy • Scanning electron microscopy • Magnetic separation 	
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	<p>Gain exposure to and training on the manipulation and interpretation of results through various techniques using:</p> <ul style="list-style-type: none"> • Mass balancing • Report writing relevant to this outcome. <p>Exposure to international QES standards (i.e. ISO 9001, ISO 14001, OHSAS 18001) and the work procedures and principles associated therewith</p> <ul style="list-style-type: none"> • Exposure to and training on applying QES principles in a technical environment, i.e. identifying risks and impacts and proper use of PPE • Exposure to South African legislation regarding Occupational Health and Safety and Environmental matters, including municipal bylaws • Exposure to electronic QES management systems • Mine Health and Safety Act 	
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<p>9. GEOLOGY</p>	<ul style="list-style-type: none"> • No formal certificate (possibility of in-house certificate upon completion) • Candidates must work towards a Mineral Resources Management (National Higher Diploma) • Completion of 2 years of practical experience <p><u>Assessment Criteria</u></p> <p>To ensure an overall understanding of the earth and how it functions. Candidates will be able to:</p> <ul style="list-style-type: none"> • Recognize and interpret common minerals and rocks. • Understand the basic processes affecting the earth and how they are inter-related through the paradigm of plate tectonics. • Understand geological time and both the changes, including evolution of life forms that have occurred over the 4.5 billion years of the existence of the earth and its future fate. • See how geology is an integral part of environmental studies and controls the distribution of plants, animals and climate with time. <p>To enable candidates to recognise sedimentology rocks and the environments in which they originate. To give students an understanding of the geology (stratigraphy) of southern Africa and its economic deposits. Candidates will be able to:</p>	<p>2 Years</p>
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	<ul style="list-style-type: none"> • Identify and interpret the origin of the most common types of sedimentary rocks • Understand the processes by which rocks weather and are then transported and deposited as sediments • Use sedimentary rocks to unravel the evolution of the earth from 3.8 billion years ago to the present. • Understand the environmental impact of sedimentary processes in deserts, rivers, lakes, beaches, oceans, etc. • Understand the origin and evolution of the sedimentary deposits of southern Africa. <p>To allow candidates hands-on experience in the field to study rocks, mapping techniques and generally apply their theoretical training in a practical manner. Candidates will be able to</p> <ul style="list-style-type: none"> • Navigate successfully in the veld • Make geological observations and record them on maps and in reports. • Use geological field equipment. • Make notes about the relationship between geological features and the environment. <p>To allow candidates to understand the physical and optical properties of minerals. Candidates will be able to:</p> <ul style="list-style-type: none"> • Recognise in hand sample and rock thin section the most common rock-forming minerals and their crystal forms • Effectively use the petrographic microscope. • Interpret the results of X-ray diffraction and electron 	
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	<p>microprobe analyses.</p> <p>To provide the fundamental concepts of igneous and metamorphic rocks. An essential module for all mainstream students of Geology. Candidates will be able to:</p> <ul style="list-style-type: none"> • Recognize, classify and interpret the origin of the most common types of igneous and metamorphic rocks • Understand metamorphic and igneous processes as a continuum. • Apply the petrographic microscope to the study of igneous and metamorphic rocks. • Understand the origin and evolution of South Africa's igneous and metamorphic rocks. <p>To allow candidates hands-on experience in the field to study rocks and mapping techniques, and generally apply their theoretical training in a practical manner. Candidates will be able to:</p> <ul style="list-style-type: none"> • Map geological phenomena on various scales. • Produce a map, write a report on the results of that mapping and put the mapping into a regional geological context. • Understand the impact of geological features of an area on the environment. <p>To enable candidates to grasp the principles of structural geology and understand the dynamics of plate tectonics. Candidates will be able to:</p> <ul style="list-style-type: none"> • Recognize and interpret deformed rock formations. 	
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	<ul style="list-style-type: none"> • Make and interpret structural measurements and plot them on geological maps. • Prepare a geological map and report in a professional way. • Understand the structural aspects of South Africa's geological formations. <p>Understand the structural aspects of South Africa's geological formations. Candidates will be able to:</p> <ul style="list-style-type: none"> • Recognize ore minerals and interpret their textures both in hand sample and by using the petrographic microscope with reflected light • Understand the primary processes of ore formation. • Understand the theory of the principle types of geochemical surveys. • Understand and apply the primary data-handling techniques of ore body evaluation. • Understand the economic aspects of South Africa's economic deposits <p>To train students to map geological terrains. Students will be able to:</p> <ul style="list-style-type: none"> • Map geological phenomena on various scales. • Produce a map, write a report on the results of that mapping and put the mapping into a regional geological context. • Understand the impact of geological features of an area on 	
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	<p>the environment</p> <p>To show the relationship between geology, environmental issues and engineering concepts of rocks. Students will be able to:</p> <ul style="list-style-type: none"> • Understand the environmental implications of primary industrial, mining and construction activities. • Prepare reports assessing engineering and environmental impacts of land use. • Understand groundwater systems and make recommendations regarding pollution control. • See how geology is an integral part of environmental studies and controls the distribution of plants, animals and climate with time. <p>To enable candidates to understand the close relationships between geology, chemistry and biology. Students will be able to:</p> <ul style="list-style-type: none"> • Understand the chemical interaction among the biosphere, lithosphere, hydrosphere and atmosphere. • Understand the chemical and biochemical changes of near-surface environments with time on a global scale. • Make recommendations on how to monitor and perhaps control changes in the major near-surface environments on earth. <p>To enable candidates to read and understand geological maps and to interpret geospatial data. Candidates will be able to:</p> <ul style="list-style-type: none"> • Understand how geological maps are created and 	
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	<p>constructed.</p> <ul style="list-style-type: none"> • Understand the interpretation of structural and stratigraphical data from maps. • Understand the principles of remote sensing, GIS, satellite imaging and aerial photography interpretation. <p>To train candidates in the principles and techniques of basin analysis. Candidates will be able to:</p> <ul style="list-style-type: none"> • Understand the strengths and limitations of the technique of basin analysis. • Utilize sedimentological, stratigraphic, wire line logging and seismic data to analyse the history of a sedimentary basin. • Undertake sequence stratigraphic analyses of siliciclastic and carbonate rock successions. • Understand the relationship between basin development and the formation of ore and coal deposits, and natural oil and gas. • Understand the use of paleontology in dating sedimentary rock successions. <p>To train candidates in the principles and techniques of analysing complexly deformed geological terrains. Candidates will be able to:</p> <ul style="list-style-type: none"> • Make a rock mechanical evaluation of structurally deformed terrains. 	
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	<ul style="list-style-type: none"> • Classify deformed rocks on the meso - and microscopic scales. • Dynamically model-deformed terrains within a plate tectonic framework. • Apply tectonic models in mineral exploration. <p>To ensure that candidates understand the composition and chemical characteristics of igneous rocks. Candidates will be able to:</p> <ul style="list-style-type: none"> • Understand the acquisition and uses of geochemical data for igneous rocks in terms of: classification and nomenclature; accuracy and precision; magmatic and volcanic process interpretation; and radiometric age determination. • Input, process, calculate and plot geochemical data in PC-based spreadsheets and other software. • Demonstrate an awareness of modern geochemical techniques and approaches in understanding igneous processes and earth evolution. <p>To train candidates in the study of metamorphic rock. Candidates will be able to:</p> <ul style="list-style-type: none"> • Solve thermodynamically related geological problems. • Carry out a detailed metamorphic study using chemical and field data. 	
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	<ul style="list-style-type: none"> • Understand the importance of metamorphism and fluid movement in ore formation. <p>To train candidates in the techniques of analysis of rock and material samples. Candidates will be able to:</p> <ul style="list-style-type: none"> • Use the petrographic microscope, XRD, EPMA, and SEM for the analysis of mineralogical and rock specimens. • Understand the application of the AA, IC, AC, ICP-MS and TOR in the analysis of environmental samples. • Understand the statistical principles of geological and environmental sampling. <p>To train candidates in the techniques of economic geology and exploration management. Candidates will be able to:</p> <ul style="list-style-type: none"> • Develop exploration targets for ore deposits. • Understand the skills necessary to design and manage an exploration project. • Manipulate GIS and remote sensing data using computer programs. • Design a mining strategy using self-designed spreadsheets. 	
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	<p>To train candidates in geophysics and the geology of Africa.</p> <p>Candidates will be able to:</p> <ul style="list-style-type: none"> • Understand the theory behind the principal types of geophysical methods for studying the earth (gravity, magnetics, seismic and geo-electrical). • Understand the general geology of Africa and interpret the evolution of the continent • Understand why certain regions in Africa are currently considered economically prospectable. <p>To train candidates in practical field mapping techniques.</p> <p>Candidates will be able to:</p> <ul style="list-style-type: none"> • Produce balanced cross sections. • Use geological maps to unravel the geological and physical environmental history of terrains. • Make advanced geological observations, record them on maps at various scales and interpret them in terms of regional stratigraphy and deformation. 	
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<p>10. ENVIRONMENTAL IMPACT MANAGEMENT - OCCUPATIONAL HYGIENE - OCCUPATIONAL ENVIRONMENT</p>	<p>Environmental Management (Mining)</p> <ul style="list-style-type: none"> • Intermediate certificate in Mine Management • Control (3 – 6 months) • Certificate in Mine Management Control – 6 papers (1 year – dependant on candidate passing all 6 papers) • Sound practical occupational hygiene experience on a mine • Good theoretical knowledge leading to the relevant qualifications in Mine Environmental Control and Occupational Hygiene. • A good knowledge and practical implementation of Audit and Inspection techniques. • A sound working knowledge of the Mine Health and Safety Act. • In – house certificate issued upon completion. No formal post qualification required. 	<p>2 years</p>
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	<p><u>Assessment Criteria</u></p> <p>Practical Environmental Management Training Course</p> <ul style="list-style-type: none"> • Environmental Law Course • Principles of Environmental Impact Assessment Review Course • Principles of Environmental Impact Assessment Course • Waste Management Course • Environmental Management System (ISO 14001). <p>Duties:</p> <ul style="list-style-type: none"> • Ability to apply environmental legislation on development projects. • Ability to read and analyse geographical information data. • Ability to manage the environmental Impact Assessment process and review environmental impact assessment reports and recommend decisions. • Ability to evaluate, and investigate the environmental impacts of mining, urban, industrial, agricultural and other forms of infrastructure development. • Ability to provide technical inputs in Integrated Development Planning projects. 	
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	<ul style="list-style-type: none"> • Ability to render advisory services to interested and affected parties on the implementation of integrated Environmental Management tools and procedures. <p><u>Assessment Criteria</u></p> <p>Practical Environmental Management (Mining)</p> <ul style="list-style-type: none"> • Routine measurements and observations with an occupational hygiene observer / practitioner. • Learn and practice usage of all occupational hygiene monitoring instruments. • Gain a working knowledge of the Mines Codes of • Practice on Occupational Hygiene and Explosion Prevention. • Hard Rock Mine Site Training: <ul style="list-style-type: none"> ○ Routine measurement with an occupational hygiene observer / practitioner ○ Become more involved with the technical aspects of the job i.e. heat pick-up surveys, fridge plants, air cooling coils, main and booster fans, water reticulation systems etc. ○ Gain a working knowledge of the Mines Codes of Practice on Occupational Hygiene and Explosion Prevention. 	
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	<ul style="list-style-type: none"> ○ Prepare reports on observations and hand it to supervisor for comments ○ Copies of these reports must be kept in your training folder for the mentor's scrutiny. <p>Mentor to make regular follow-up inspections on the incumbent on site. Meet all legal and regulatory requirements and protect the health and safety of persons in the course of his / her complex engineering activities.</p>	
<p>11. MINING SURVEY</p>	<ul style="list-style-type: none"> ● Mine Surveyor Certificate of Competency ● Mine Valuation Certificate ● Candidates need to undergo one year of practical training in underground work, doing shifts. <p><u>Assessment Criteria</u></p> <p>Comprehend and apply advanced knowledge of the widely applied principles underpinning good mining practice, specialist knowledge and knowledge specific to the jurisdiction and local conditions.</p> <p>This outcome is normally demonstrated in the course of design, investigation or operations. The candidate typically:</p>	<p>2 years</p>

	<ul style="list-style-type: none"> • Displays mastery of understanding of surveying principles practice and technologies in the practice area; • Applies general and underpinning surveying knowledge to support analysis and provide insight; • Uses an surveying fundamentals, based on first principles; • Displays working knowledge of areas that interact with the practice area; • Applies related knowledge: financial, statutory, safety, and health management. • Exposure to the Mine Health & Safety Act and Regulations. • Conduct his or her surveying activities ethically. 	
<p>12. SOFT & MANAGEMENT SKILLS REQUIRED BY ALL DISCIPLINES (DEVELOP AN INTEGRATED ASSESSMENT</p>	<p><u>COMPULSORY</u></p> <p>Team Work</p> <p><u>Individual, team and multidisciplinary working</u></p> <p>Demonstrate competence to work effectively as an individual, in teams and in multidisciplinary environments. The candidate demonstrates effective individual work by performing the following:</p>	<p>As per course outline and requirements.</p>

<p>TOOL FOR ALL THESE SKILLS TO ASSESS COMPETENCY)</p>	<ul style="list-style-type: none"> • Identifies and focuses on objectives • Works strategically • Executes tasks effectively • Delivers completed work on time <p>The candidate demonstrates effective teamwork through the following:</p> <ul style="list-style-type: none"> • Makes individual contribution to team activity • Performs critical functions • Enhances work of fellow team members • Benefits from support of team members • Communicates effectively with team members • Delivers completed work on time • Works as an individual, team and in a multidisciplinary working environment. • Reflects on own learning and determines learning requirements and strategies; • Sources and evaluates information; • Accesses, comprehends and applies knowledge acquired outside formal instruction; <p>Demonstrate competence to work effectively as an individual, in teams and in multidisciplinary environments</p> <ul style="list-style-type: none"> • Identifies and focuses on objectives 	
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	<ul style="list-style-type: none"> • Makes individual contribution to team activity • Enhances work of fellow team members • Uses a systems approach • Communicates effectively with team members • Executes tasks effectively • Delivers completed work on time • Acquires a working knowledge of co – workers’ discipline • Performs critical functions • Understand the distinction between a team and a group • Identify the characteristics of high-performing teams • Identify the barriers to effective teamwork • Discover their preferred role in a team • Build authentic, functional relationships in a team • Demonstrate understanding of team leadership • Create conditions for team cohesion and synergy • Help a team evolve to the “performing” stage of its life-cycle • Facilitate a team meeting for results • Analyse and understand social issues • Participate in groups and/or teams to recommend solutions to problems • Effective working as part of a team • Understanding diversity • Understand the impact of stereotypes, prejudice and discrimination • Value and celebrate differences in self and others 	
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	<ul style="list-style-type: none"> • Understand the implications of current legislation • Develop cross-cultural communication skills • Harness diversity for innovation, productivity and community <p>Introduction to the World of Work</p> <p>The candidate must have a basic understanding of:</p> <ul style="list-style-type: none"> • Basic conditions of employment and Employment Equity Act and their implications in the workplace • Labour Relations Act • Skills Development and Levies Acts • His / Her rights and obligations as an trainee • The rights and obligations of the employer • Work ethics and codes of behaviour (Code of Conduct) • Social responsibility <p>Time Management</p> <p>Organising and managing oneself and one's activities responsibly and effectively</p> <p><i>Communication</i></p> <p>Communicate technical, supervisory and general management information effectively, both orally and in writing, using appropriate language and terminology, structure, style and graphical support.</p> <ul style="list-style-type: none"> • Communicate professional work to peers, other disciplines, client and stakeholder audiences, selecting appropriate modes of communication 	
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	<p>Generate and assemble appropriate data and information, using available resources</p> <ul style="list-style-type: none"> • An appropriate search methodology is used to gather data and information. • Collecting, analysing and critically evaluating information • Compile a Portfolio • Data and information is clustered into logical themes/sub-themes. • Sources of information are listed, identifying the various concepts/ideas obtained from each source. • Reference lists are compiled and displayed according to a standard convention <p>Communicate interactively with individuals and with members of a group. Ideas are presented clearly and logically.</p> <ul style="list-style-type: none"> • Ideas from other individuals are encouraged. • Listening skills are demonstrated • Effective and confident participation in discussions is demonstrated. • A comprehensive report on the outcome of discussions, including the views of all participants is presented orally and/ or in writing. • Understand the communication cycle and what characterises effective communication 	
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	<ul style="list-style-type: none"> • Identify barriers to effective communication and demonstrate techniques to overcome these barriers • Demonstrate the qualities of an effective and empathetic listener • Distinguish between passive, aggressive and assertive communication • Demonstrate understanding of the assertive communication model • Effective and confident participation in discussions is demonstrated. <p>Generate, construct, assemble and deliver a technical presentation. The needs and knowledge of a simulated audience are identified and information is pitched at the appropriate level.</p> <ul style="list-style-type: none"> • An appropriate presentation format is chosen according to the occasion. • Presentation slides and handout documentation is produced using effective layouts and formats. • A variety of effective verbal presentation techniques are used with confidence. • The verbal presentation is integrated with the visual aids/electronic media to communicate the information effectively. <p>Business Communication</p>	
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	<ul style="list-style-type: none"> • Use a dictionary effectively • Use business terminology appropriately • Write effective business letters and reports • Understand email and internet protocol <ul style="list-style-type: none"> • Compile minutes of a meeting • Conduct a business presentation <p>Conflict Management and Negotiation</p> <ul style="list-style-type: none"> • Understand their own relationship to conflict • Discover the power of conflict, as a catalyst for growth and change • Respond rather than react in conflict situations • Use the five conflict handling styles appropriately • Use conflict for breakthrough performance • Reach win-win outcomes in conflict and negotiation • Identify their strengths and development areas in conflict management • Create a personal action plan to ensure effective conflict management in the future <p>Hiv-Aids</p> <ul style="list-style-type: none"> • Understanding the legislation relating to HIV/AIDS and the workplace • Identify the ways the HIV virus is transmitted 	
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	<ul style="list-style-type: none"> • Explore their attitude towards people with HIV/AIDS • Build a non-discriminatory workplace culture • Deal with the reality of being HIV positive • Support a colleague who has HIV/AIDS <p>Engineering Management</p> <p>Apply engineering management principles and concepts to engineering activities.</p> <ul style="list-style-type: none"> • Apply entrepreneurial principles to engineering activities • Practice engineering management principles • Formulate and evaluate a project / process plan <p><i>Computer Literacy</i></p> <ul style="list-style-type: none"> • Demonstrate computer literacy – word, excel, pastel accounting • How to use email • Using the internet <p><i>Problem Solving</i></p> <p>Demonstrate competence to identify, asses, formulate and solve convergent and divergent engineering problems creatively and innovatively</p> <ul style="list-style-type: none"> • Analyse and defines the problem, identifies the criteria 	
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	<p>for an acceptable solution.</p> <ul style="list-style-type: none"> • Identifies necessary information and applicable engineering and other knowledge and skills • Generates and formulates possible approaches to problem solution • Models and analyse possible solutions • Evaluates possible solutions and selects best solution • Formulates and presents the solution in an appropriate form <p>Business Management</p> <ul style="list-style-type: none"> • Understanding supervisory principles and methods • Understanding project management principles and methods • Understanding management and leadership principles and methods <p><u>RECOMMENDED</u></p> <p>Introduction to the World of Accounting and Basic Finance</p> <p>The candidate must have a basic understanding of:</p> <ul style="list-style-type: none"> • The Accounting Environment • Business Ethics • Managing ones own money • Developing own financial goals • Understanding and implementing the principles of financial planning 	
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	<ul style="list-style-type: none"> • Avoiding the debt spiral • Personal tax planning • Applying budgeting to real life situations • Developing a realistic view of the cost of living • Differentiating between necessities and luxuries <p>Life and Career Goals</p> <ul style="list-style-type: none"> • Identify personal values • Set realistic life and career goals • Develop and market themselves as a brand • Organise and manage themselves to achieve their goals <p>Stress management</p> <ul style="list-style-type: none"> • Define stress • Diagnose the causes of their personal stress i.e. Physical, emotional, spiritual, mental or relational • Manage stress i.e. Time management, physical fitness, • nutrition, relaxation techniques, positive self talk, assertion skills, a support network • Understand the connection between stress and change • Use the hidden power of stress to optimise performance <p><i>Understanding Self – Self Mastery</i></p> <ul style="list-style-type: none"> • Understand the Transactional Analysis model 	
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	<ul style="list-style-type: none"> • Recognise the Parent, Adult and Child states in self and others • Understand the role of the Inner Child in personal motivation and productivity • Use their understanding of Transactional Analysis to facilitate self mastery <p>Strengths Finder</p> <ul style="list-style-type: none"> • Discover their five main strengths through individual profiling • Develop an action plan to turn strengths into talents • Understand how to capitalise on the strengths of others • Critically challenges assumptions and embraces new thinking. 	
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The guideline is not compulsory for employers but suggested to guide the successful implementation of the programme. Critical elements to be implemented might differ from one company to the other.

1. Programme Initiation

- Gathering Information from the MQA, DME, and all other relevant sources
- Planning and budgeting
- Selecting a GDP Project Team
- Identify key role players for this programme within the organisation (sponsor, GDP Manager, GDP Administrator / Coordinator, and training providers)
- Develop a communication strategy – {internal / external}
- Develop a project plan
- Appoint project leader and support team
- Map out a business case presentation {For Top Management to solicit buy in}

2. Candidate Placement

- Receive CV's from MQA
- Interview candidates (where necessary)
- Select qualifying candidates
- Inform Careerwise of the successful candidates
- Sign and Finalise GDP Agreement {MQA, Host Employer, Candidate}
- Sign and Finalise GDP Contract of employment {MQA, Host Employer, Candidate}

3. Induction and Orientation

- Induct candidates into company policies i.e. Disciplinary and Grievance Codes
- Induct the graduate into the workplace
- Inform candidates of their roles and responsibilities of role players
- Administrative and logistical arrangements
- Inform candidates of the company's expectations and responsibility to them {candidates}
- Hand out company information packs and access cards

4. Candidate Support Systems

- Develop an assessment tool and system
- Select appropriate assessors based on technical and assessment experience
- Select assessors that are accredited and registered
- Select an electronic record capturing system {Excel spreadsheet}
- Select a coach to assist the graduate with on the job training
- Select a mentor to provide skill enhancement and support to the graduate
- Appoint GDP Administrator [Invoicing, data capturing, etc]
- Provide counselling and support for graduates leaving
- Record graduate assessment results

5. Manage Programme Delivery

- Ensure that all relevant records have been kept
- Provide guidance and support to candidates throughout
- Ensure regular train update meetings with provider, employer and candidate
- Companies need to have the capacity to produce auditable records of grants disbursed for the duration of the programme
- Reporting of problems to correct channels
- Rotate the candidates to other relevant employers where candidates cannot get appropriate exposure.
- Schedule training programmes/ on the job learning as per the programme guidelines
- Conduct joint integrated assessment of institutional and workplace learning
- Set up feedback forums with graduates or evaluate the workplace.

Coaches and mentors could be managed through the following:

- Discussing the various roles of coaching and mentoring and keeping up to date with new trends
- Network sessions whereby they discuss difficulties or challenges while maintaining confidentiality.
- Providing a mentor toolkit to equip them with tools required to be effective as a professional at all times
- Provide regular and holistic feedback to the graduates regarding their performance

Establishment of a Graduate MIS

- Learner records – Details attendance registers
- Training records – Training done, reports of curriculum and schedules
- Assessment records – number of assessments done, and outcomes thereof
- Provider records – Attendance register, Profiles, and accreditation status
- Graduate records – Agreements, contracts, progress reports, performance reports
- Workplace records – Time sheets, log books, feedback reports
- Management reports – Progress reports, assessments, training guides, contracts
- Identify criteria for monitoring and evaluation (progress against business plan, absenteeism of graduates, drop out rates etc.)
- Ensure providers are fulfilling their tasks
- Grievance/ disciplinary procedures in cases of non – delivery, disagreements or breach of contracts
- Conduct continuous and end of the programme assessments
- Ensure that feedback is provided to graduates on assessment results and progress throughout the training through ongoing communication
- Compile and submit Quarterly reports in line with GDP Rules

6. Performance Management

- Develop, communicate, hand out a Performance Management Policy to candidates, and providers
- Contract with both candidates and providers on performance expectations
- Using the right templates and maintaining Candidate records through a Portfolio of Evidence for each candidate
- Ensure that candidates and providers understand the implications of non-performance
- Ensure training is based on programme requirements

7. Continuous Improvement and Evaluation

- Develop and implement a Quality Control System to evaluate and review the programme continuously

8. Termination / Conclusion of Contract

- Manage the contracts should candidates not complete the programme
- Make candidates aware of reasons for termination of contracts
- Manage exit strategies: Withdrawal from programme – Advise Careerwise and MQA
- Discipline Issues – Apply internal policy codes
- Candidates get employed / start own business – Advise Career Wise and MQA

MQA GRADUATE DEVELOPMENT PROGRAMME - EMPLOYER IMPLEMENTATION CHECKLIST

PROCESS FLOW CHART

