The Department of Mining Engineering at the University of Pretoria offers postgraduate programmes to graduates who wish to enhance their skills in Mining Engineering.

Various postgraduate specialisation options are available, including rock mechanics, mine design, rock breaking and surface mining, mine ventilation engineering and underground mining methods. The curriculum also includes management and leadership, risk management and mineral economics as areas which can be pursued.

The Department boasts state-of-the-art facilities including lecture rooms, study centres, access to technology and the Kumba Virtual Reality Centre for Mine Design.

Honours degrees: (minimum duration: one year / maximum three years)
- Bachelor of Engineering (Honours) — BEng(Hons)
- Bachelor of Science (Honours) — BSc(Hons) Applied Science

Master's degrees: (minimum duration: one year / maximum four years)
- Master of Engineering — MEng
- Master of Science — MSc Applied Science Science degree.

Doctorates: (minimum duration: two years)
- Doctor of Philosophy — PhD
- Doctor of Philosophy in Engineering — PhD(Eng)
- Doctor of Engineering

For more information and entry requirements, visit www.up.ac.za/mining-engineering
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CHAIRPERSON’S WELCOME

Welcome to the 2017 SAIMM Career and Leadership Conference!

On behalf of the Young Professionals Council and organising committee, I would like to welcome you to another instalment of the Career and Leadership Conference. I hope that this conference will enlighten you on the career paths you have chosen and most of all, the necessary attributes required to achieve your goals. The minerals industry is faced with numerous challenges which can only be solved by new ways of thinking. You are best positioned to provide the necessary solutions through collaborative efforts. I encourage you to take time and network with the industry personnel and your colleagues. The Young Professionals Council has compiled this information handbook to assist you with information relating to, inter alia, career paths, career planning, mentoring, personal development and job search skills. I wish you the very best as you wrap up your era in university and embark on your careers. I would like to encourage you to get involved in the activities of the YPC and the Institute. As we leave today, I would like each of us to make a commitment to act against any violence directed to women and children. We need to protest against societal norms that encourage and perpetuate violence of any form. Let us be the beacon of hope for a South Africa that is free of violence.

Peace!

Sihe Nhleko
Young Professionals Council (SAIMM), Chairperson

THE CAREER & LEADERSHIP CONFERENCE

It is recognized that at times students enter the minerals industry, as graduates, not being fully informed of the realities and challenges that they will encounter, leading to frustration in the early years of their careers. This conference is aimed at equipping final year university students in the mining, survey and metallurgical disciplines with the knowledge, experience and advice of various industry players from different areas of the minerals industry as they begin their professional careers.

Outcomes

It is envisaged that student will take away the following information from this event:

• an understanding of the various career paths a mining and metallurgy qualification affords them;
• the necessary training and registrations they will require at their early career stages; and
• the personal development plans and initiatives graduates can undertake to differentiate themselves in the market place.

HOW TO USE THIS BOOK

This handbook has been prepared for you as a resource guide as you embark on this significant and hopefully worthwhile journey into the professional world of the minerals industry. The handbook contains information on job search skills, career planning, networking, mentoring, professional and personal development.

We hope this handbook will be of great use to you. Please give us feedback on the handbook so that we can continue to improve it.

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www.saimm.co.za

Compiled by Sihe Nhleko, Tshepo Mmola and Vulani Maseko

Designed by Tshepo Mmola   Cover Image designed by Freepik.com

2 The SAIMM Career and Leadership Conference 2017
ABOUT THE YPC

The Young Professionals Council (YPC) of the Southern African Institute of Mining and Metallurgy (SAIMM) is constituted to develop and promote initiatives and industry awareness of the members of the Institute below the age of 35 years and to provide an alternative perspective to the SAIMM Council to consider in its decision-making.

The YPC is committed to the SAIMM charter, viz. to:

- Render professional services of high quality to its members and to continually improve these services by keeping abreast of technological developments;
- Apply professional ethics in all its activities and encourage members to follow suit;
- Fulfil its obligations towards the community and the environment;
- Continually strengthen its image as a dynamic organization by playing a leading role in the initiation and implementation of new ideas and by organizing events around topical themes;
- Diligently promote the interests of its members and to represent them in a competent manner;
- Bring the mining and metallurgical fraternity, research and education personnel, and students, together in one organization;
- Judiciously anticipate the needs of members.

Sustainably empowering Young Professionals in the minerals industry to contribute to the profession and society.

EDUCATION

The Education Working Group represents the interests of primarily pre-graduates in basic and higher education on matters of career guidance, academic development and life skills.

Mission
- Influence policy on education in mining and metallurgy in terms of quality and access
- Support efforts to secure funding for education
- Provide guidance on careers in the minerals industry
- Recognise excellence in education
- Provide academic support to learners and students
- Facilitate mentorship and life skills initiatives for young professionals
- Encourage life-long learning and support post-graduate education

CAREER GUIDANCE

The Career Guidance Working Group represents the interests of primarily post-graduates in mining and metallurgy on matters of training, professional development and life skills.

Mission
- Promote best practice in terms of training and development
- Maximise recruitment and retention of young professionals in the minerals industry
- Facilitate mentorship and life skills initiatives for career development
- Liaise with bodies in government and industry for the benefit of the career development of young professionals
- Promote diversity in minerals industry in terms of race, gender and age
- Create professional networking opportunities

ENTERPRISE

The Enterprise Working Group primarily undertakes industrious initiatives of some scope, complication and risk to serve the interests of young professionals.

Mission
- Support entrepreneurial endeavour by young professionals
- Establish and promote research capacity in young professionals
- Influence service providers outside the mainstream who provide secondary services
- Encourage development of innovative processes, practices and designs by young professionals
- Lead the creation and adoption of knowledge and technology in mining and metallurgy
The duration of a graduate programme and the path to promotion are usually major concerns to recent university graduates who aspire to become managers, consultants, and leaders of industry. Unfortunately, many engineers view the practical period of their career as a waste of time. Few young engineers see the importance of practical learning e.g. learning track and pipe work, time as a miner. Always keep in mind that practical training enables you to gain sufficient knowledge to familiarize yourself with the fundamental principles of mining engineering, understand methods and processes, and establish fundamental skills.

**Production mining**

The pathway to promotion is as broad as the field itself, but following the traditional career path of the South African graduate you can typically expect to go through the journey outlined in Table 1. Due to the lack of job opportunities under the current economic conditions, the time you will spend in each phase of development will be significantly longer than that shown in Table 1. The longer timeframes will probably add to your frustrations as you aspire to reach the top management positions. Table 1 illustrates only one of many career paths.

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<tr>
<td>Miner</td>
<td>6 months</td>
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<tr>
<td>Shift Supervisor</td>
<td>2–3 years</td>
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<tr>
<td>Overseer</td>
<td>2–3 years</td>
</tr>
<tr>
<td>Section Manager</td>
<td>3–5 years*</td>
</tr>
<tr>
<td>Production Manager</td>
<td>+5 years*</td>
</tr>
<tr>
<td>Mine Manager</td>
<td>+5 years*</td>
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* Duration will depend upon the ability of the engineer and requirements of the company and/or industry

Should you not wish to follow a production-based career path, you may follow a technical, research, academic, governmental, financial, or entrepreneurial route.
Technical services
The Chamber of Mines Examination Department arranges and administers all the examinations that are written by the Survey, Sampling, Ventilation, and Rock Mechanics disciplines. They are also responsible for the issuing of the appropriate certificates. The Advanced Sampling qualification enables the candidate to do his/her job with more confidence and a knowledge that paves the way to their being able to occupy a senior position. The Advanced Survey qualification is a prerequisite for being eligible to sit the examination for the Government Certificate of Competency. The Mine Environmental Control qualification is required by the Mine Health and Safety Act (Act 29 of 1996) for persons who are responsible for the environmental control of the mine. The Rock Mechanics qualification is required by the Mine Health and Safety Act (Act 29 of 1996) for persons who are responsible for rock mechanics at the mine.

More information is available at http://www.comcert.co.za/.

Alternative career paths
After obtaining an appropriate level of production experience, you can become a specialist consultant to the mining sector, an academic at any of the higher education institutions offering qualifications in the field of mining and metallurgy, a government inspector with the Department of Mineral Resources (DMR), or a researcher at one of several research institutes in the country. You should also appreciate that your engineering education makes you valued in many other sectors of the economy, such as retail and manufacturing, as well as in other professional services (legal, finance, management consulting etc.). In order to improve the prospects of entering into these alternative career paths, you should plan from an early stage of your career to pursue postgraduate education and other formal courses to support your career choices and development, such as specialist software training. Following these alternative career paths is probably not as straightforward a process as that for the traditional production mining route. However, the section on ‘Job search skills’ provides you with tips on how to go about getting your ideal job.
The SAIMM offers a web based service to its student members to connect them with potential employers. For more information, contact membership@saimm.co.za

SAIMM JOBS PORTAL

- The first step in job searching is to be pro-active. Some ways in which to be pro-active are:
  - Start networking, find out about job leads, and be ready to provide your résumé. Be able to introduce yourself within a minute, stating your name, work experiences, and/or qualifications
  - Frequently visit company websites for job posts, and call the business to check availability of the position
  - Use the employment agencies to place your profile and receive job alerts that suit your profile. These services are usually free
  - Learn how to market yourself (remember you are unique). Be able to answer these questions at all time: Why should the company hire you? What contribution do you see yourself making to this company?

This section is aimed at providing graduates with skills for job searching, focusing on networking skills, development of a résumé, and creation of a covering letter. It also provides interview tips.
“All things being equal, people will do business with those people they know, like and trust.”

In other words, if two or more graduates have a qualification, experience, know-how, or any other determining factor which might come into play that is pretty much the same, or equal, it’s that man or woman who has successfully created the “know, like and trust” relationship with the prospective employer that will obtain that job or referral.

One of the most important reasons for attending events is the face-to-face interaction with people. It accelerates the KL T factor (Know-Like-Trust) and expands your current network.

Every industry has events that are mainly attended by your peers.

Industry events allow you to explore new innovations in your field. You interact with peers that might be years ahead of you. You can connect with new strategic partners.

Attending events where you are surrounded by those that have a similar profession to yours allows you to discuss the changes in the industry and exchange information on new insights to improve your level of knowledge and expertise.

The SAIMM organises several conferences, colloquiums and technical presentations that you could attend.

**NETWORK BUILDING**

Networking remains one of the most successful ways to locate new opportunities, even in the digital age. People spend time with, invest in and do business with people they know, like and trust.

**NETWORKING TIPS**

- Dress professionally, avoiding strong cologne, chewing gum, revealing your tattoos, and/or smoking beforehand - people have different preferences
- If possible, get a list of delegates attending the meeting, and prioritize those you would like to meet and plan your strategy accordingly
- Keep your cell phone on silent, you do not want any distractions
- Greet the person with a firm handshake and a smile then introduce yourself, be polite. Remember a smile is priceless
- Listen carefully to the person you are interacting with, avoid distractions
- Thank the person for their time and request their business card
- Some days later, follow-up with a thank-you letter. You may attach your résumé.

“It is not the person who says there are no jobs available that gets hired, but the one who keeps searching.”
HOW TO CRAFT A WINNING RÉSUMÉ

Your curriculum vitae (CV) or resume is often the first impression you’ll make on a prospective employer, and it’s important to stand out amongst the crowd. Understand how to increase your chances of getting your dream job by creating a well-structured, good looking and easy to read résumé and covering letter.

| COVERING LETTER |
A covering letter must accompany your CV as it provides you an opportunity to highlight your abilities and experiences that are ideal for the employer. You need to demonstrate that you know something about the company in your covering letter. This can be achieved by using the job description to draw connections between yourself and the position. This provides an opportunity for the employer to assess whether you are able to write, communicate, and articulate your thoughts effectively. A few tips to consider are: avoid using the word “I” where possible; provide examples of ‘soft skills’ by form of examples; your covering letter should have three to four paragraphs; if you have little work experience, emphasize your voluntary work; use action verbs; and close by asking for an interview and thank the company for their consideration.

| RÉSUMÉ |
Résumés serve only one purpose: that is, to get you an interview. Keep in mind that employers have about 30 seconds to read résumés. A resume is brief introduction covering your education, experience, accomplishments, and skills relating to your career goals. The résumé acts as a salesperson marketing the product (you) to the consumer (company). How you market yourself in your resume will determine whether you are granted an interview. Note that a résumé does not guarantee employment – its purpose is to get you an interview. Tailor each résumé to the specific employer and position you are interested in.

There are different types of résumé (chronological, functional, and combination), but discussing them is beyond the scope of this booklet. Although there are different types of résumés, they all cover the following common items:

• Heading — your name, address, phone number, and email address
• Objective — the specific job you are applying for and the name of the company. A summary includes specifics as to why your background would make you a good hire for this job
• Education — start with your most recent education (and then go back in time) and include the name of the school, location, date of graduation, and your programme. Do not include high-school education
• Position-related skills — if you have little work experience, highlight your specific skills as they relate to the job and your qualification(s)
• Projects — include school projects that relate to the job description
• Work experience — work can include full-time and part-time jobs, internships, and clinical and volunteer experience
• Achievements/volunteer experience — any awards or honours that you may have received or activities that you have participated in, both in school and in the community.

http://www.cabrillo.edu/services/jobs/pdfs/resume_guide.pdf
PREPARE WELL

- Research the company’s values and strategy and be informed of relatively old and more recent news; know the company’s mission and core values; be aware of any current news about the company and the industry.
- Research the most common interview questions as they apply to the position you applied for.
- The most likely question that you will be asked is ‘tell us about yourself’. Therefore, have a clear understanding of yourself and what you bring to the company. Be ready to provide unambiguous examples of how you could add value to the company.
- Before you present your CV, covering letter, and résumé ensure that someone has evaluated them.
- Think about several strengths you have that relate to the position you are looking for.
- Identify and turn around your weaknesses by describing how you have overcome them.
- Develop a plan as to how you will further your professional growth (education, joining relevant associations and societies (ECSA, SAIMM, etc).
- Know the duties and responsibilities of the job you have applied for.
- Practice, practice, practice until you own your responses before going for an interview.

INTERVIEW TIPS

- Dress professionally. Your outfit should not be too revealing, should cover tattoos, clothes must be clean and pressed. Remove body piercings that might be regarded as inappropriate.
- Arrive at least 30 minutes early for the interview.
- Have a solid handshake (no perspiring hands) that is sincere – let the interviewer take the lead.
- Turn off your cell phone, this is the most important moment of your life. Body language: use natural gestures – smile; sit up straight, and lean slightly forward; keep your arms uncrossed; establish eye contact; show interest and demonstrate a positive attitude by nodding where necessary.
- Control your nerves by trying to relax through breathing, and exhibit patience.
- Listen carefully before you answer any question.
- Time is of essence. Be attentive when listening to the questions. When providing answers, remember that you are selling yourself.
- Ask questions relevant to the position you are being interviewed for.
- Stay away from questions related to salary, time off, and/or maternity leave.
- At the end of the session, thank the interviewers for their time and ask when will you be hearing from them.
- For development purposes, you may ask interviewers about how you can improve (preferably after you have received the outcome of the interview).
Every engineering student prays and works toward a bursary particularly towards the end of an academic programme. This was the fortunate position I found myself in as a mining graduate. Like every student, I was looking forward to working in the industry after graduating. Sadly due to the current economic climate all graduates sponsored by the company I was with at the time were not offered an employment contract. This did not settle well with me. I think the worst thing was seeing the letter 2 hours before my final exam. I went through the whole year with a “guaranteed” job only to have the tables turn in November. One can only imagine the emotion that I was going through considering that I had turned down a potential offer from another company during the year.

As the saying goes, when life gives you lemons you need to make lemonade. My initial plan was to reconnect with the offers I received earlier in the year but sadly they were also affected by the economic challenges. I really could not do much between November and the first week of January. The internet became my best friend in job hunting but most posts required 5 years’ experience. Based on the challenges in mining and shortage of opportunities I considered a career in the financial sector. I remember receiving an email from the YPC (SAIMM) indicating that they have a graduate database for members and inviting unemployed graduates to register online for it. I registered towards the end of January to explore opportunities. If only I knew this was my golden ticket. Two weeks later an email with a job advertisement looking for a graduate with operational experience was sent out and I applied for the post. I remember when I saw the post I said to myself “this job is mine”. I was called in for an interview and to my excitement was offered the position in March which I accepted.

I am currently involved in a collaborative program involving various stakeholders that looks into mining R&D and manufacturing. The greatest highlight of the current work I do is being around the table with industry game changers and being at the forefront of the future of mining in South Africa.

Now more than ever I realise the importance of being affiliated and active in professional bodies. As a student I was exposed to the SAIMM through various student activities that I participated in, the student colloquium and student debate being just a few. I also regularly attended the Joburg branch technical presentations. I am currently an associate of the SAIMM and part of the YPC conference organising committee. Apart from the conference committee I recently joined the YPC Enterprise Working Group.

To every final year student in mining and metallurgy, yes the industry is not doing well but we still have a mining industry in the country. Look at your peers and ask yourself “what sets me apart from the rest?” The true answer to that question will keep you going in tough times. What I learned from my experience is that we will not all travel the same path but every path has its own light at the end of it.

5 Lessons thing you can learn from Katlego’s experience

1. Never give up
2. Be persistent in your pursuit
3. Believe in yourself
4. Have an optimistic and positive mindset
5. Always maintain good relations with your contacts

Katlego Letsoalo
Making the Minerals Industry More adaptable for Women

Katleho Phamotse and Kgabo Mokoena

Making the Minerals Industry More adaptable for Women By Katleho Phamotse and Kgabo Mokoena

Her presence goes unnoticed as she enters the room; her laugh, smile and easy going nature put us all at ease and give the impression that this interview will be a pleasant one. She is a beautiful lady hailing all the way from Venda, Limpopo. She enjoys regular activities such as golf and shopping, which is evident in her stylish attire she had on for the interview. Caroline is one of the people who are making the mining industry more adaptable for women. She is from humble beginnings as she used to walk about 3–4 km from home to Mutshalingangana Primary School. She then attended Mbilwi High School, and later Tshivhase High School where she completed her matric. While in high school, she was one of the top 16 performers who were selected for a mine visit at Tshikondeni Mine, one of Exxaro Resources' coal mines, to see what career paths could be followed in the mining industry. It was there she met Mr. Eric Thabo, current Samancor Exploration Geology Manager, who inspired her to study geology. At the time, 90% of women were doing menial jobs around mines and she was puzzled that there were few females represented in the geology field. She then worked hard at school and was accepted to study geology at the University of Venda. In 2004, she relocated from her home province and moved to Johannesburg to attain her Geology Honours degree at the University of the Witwatersrand. Immediately after completing her studies, in December 2004, she started working at Lonmin Platinum Mine. A very loyal employee she was, she worked with Lonmin for 10 years. While at Lonmin, she became the head of the Women in Mining Forum.

“Caroline could relate to the problems that other women were facing because she herself was required to put on the PPE and spend 4–5 hours underground. She then saw the need to start the Mbokoto Group, a ‘one-stop’ company focusing on Personal Protective Equipment (PPE) designed for the female physique”

She was leading this role concurrently with her geology responsibilities. This was a very opportune position for her as she was able to have an eagle’s eye view of the problems women were faced with in the mines. A lot of women would complain that the personal protective equipment (PPE) garments were not suited for their physique and needs. Caroline could relate to the problems that other women were facing because she herself was required to put on the PPE and spend 4–5 hours underground. She then saw the need to start the Mbokoto Group, a ‘one-stop’ company focusing on PPE designed for the female physique and sanitary packs for women to attach to their PPE in case of emergencies, hosting workshops to empower women, with the PPE having received the greatest achievement.

There is maternity wear PPE as pregnant women can be allocated low-risk tasks that may still require them to wear full PPE on surface (for example: ladies working at the stores) All these variations of PPE are available because Caroline strongly believes that a garment should accommodate a person’s needs. The fabric that the PPE is made of is SABS-approved to meet safety standards for a mining environment.

In August 2015, Caroline introduced her PPE products at the women’s conference organized by the MHSC and DMR at Birchwood Hotel. The Mbokoto brand received enthusiastic support from the unions, mine management, and the general workforce. The conference was attended by numerous mining houses, and the then Minister of Minerals (Mr Ngoako Ramathodi) who was highly impressed by the
Starting her own company was not a smooth ride. She faced many challenges along the way; these included raising the starting capital to buy machinery, paying employees, and a lack of skills with regards to operating sewing machines. It became very apparent to Caroline at the time that South Africa lacks portable skills. Training costs became a large expense for her, and gave birth to other problems of efficiencies in producing required batches of PPE. Mining is a very old profession in South Africa and PPE has been worn for years; as a result, mines prefer to purchase PPE from reputable companies that have been in the business for a while. That became another challenge for Caroline as it was not easy to penetrate the market. It however turned out that the women who had tried on Caroline’s PPE were extremely happy with the comfort and how the PPE was able to meet their needs. To overcome most of her challenges, Caroline worked closely with the Department of Mineral Resources (DMR) and the Mine Health and Safety Council (MHSC). She attends tripartite meetings and the two bodies have helped immensely with exposure for her company. She also worked closely with the government funding and business development institutions such as the Small Enterprise Financing Agencies (SEFA) and Small Enterprise Development Agencies (SEDA). To improve productivity and efficiencies, her company is working closely with Productivity SA, an institution specializing in analysing and improving business performance. To develop her export capabilities, the Export Credit Insurance Co-operation of South Africa (ECIC) also approved her company for further capital outlay and support. This also proves to all South Africans that the government has established substantial institutions directed towards supporting small and medium enterprises (SMEs). Caroline’s PPE products have passed the end-user trial and have been approved for use by some of the biggest mining companies in South Africa, including Sibanye Gold, Gold Fields, Gold One, Bokoni Platinum, PPC Slurry, Idwala Lime Producers, Samancor Chrome East, Two Rivers, Dwars River, and Universal Coal.

Being a young woman in a male-dominated world, Caroline has needed very strong support structures by her side that have encouraged her to soldier on even when it seemed like things would not work out. Her support structures have been her mother, brothers, and her children as she wants to leave a legacy for them. While mentioning her children, Caroline did remark that she was a teenage mother and that was never a barrier for her to achieve her goals. Instead she turned it into a positive aspect and kept pushing forward to reach to the stars.

Her mentor, Mark Munroe, current Vice President at Black Mountain Mining, has played a great role in her success too. Her advice to young people who wish to follow the entrepreneurial route is as follows.

- Break boundaries: do not limit yourself to what people have been able to do in the past
- Get as much exposure as possible; go out there, ask, do not only do work for money, do it to learn
- Remain focused: even if you have many ideas, focus on at least three or four and watch them transpire before moving onto the next idea
- Be humble: always be willing to learn from your surroundings and from everyone, regardless of their rank
- Develop very good listening skills: it is in listening that you are able to identify an area that needs extreme caution and focus
- Be self-driven: there are a lot of challenges along the way and if you do not want something badly for yourself, anything can shift your focus
- Be persistent: for the doors that are not open, be willing to kick and slam them down
- Do not take ‘no’ for an answer: there are many people willing to help so you must not be discouraged by any one person who says no.

Given the great advice, Caroline shows further that she does not just mention things but she practices what she preaches. Her company, Mbokoto Group, has grown, and a mining consultancy was birthed from her initial company, named MIC Mining Consultancy. Her consultancy firm has worked on manganese and coal exploration projects and is assisting with obtaining mining licenses and mine technical services, to mention a few.

Today, Caroline’s companies can run themselves since she strongly believes in learning continuously. To prove that, she is currently studying towards a Bachelor of Commerce degree in Management at the University of South Africa (UNISA). She not only empowers herself but also empowers people through learnerships offered at Mbokoto Group. Mbokoto Group currently has about 35 employees, most of whom were recruited through the learnership programme that offers a tailoring course. The people who successfully complete the tailoring course end up as employees. Caroline is truly an inspiration to young people.
What Students expect from the Industry after Graduation, and the Reality By Dineo Makhoba

One of the main aims of the YPC is to ensure that varsity students are adequately equipped with the basic tools that will propel them in industry as graduates.

Currently, the view of the mining industry according to the younger generation is quite vague and unclear. According to Khanyisile Khenene, a grade 11 student from the Eunice High School for Girls, being a mining engineer is about finding diamonds. Indeed, this is quite a limited and basic view of the exciting mining industry as there is a wide range of commodities.

The industry may thus seem unpredictable and daunting for most undergraduate students who are in the beginning stages of attaining their degree. The academic requirements for entry into the academic programme ensure that the technical skills of the student are effective enough to be applied within the working industry.

With that being said, what are the main expectations of a graduate with regard to the real and exciting world of the mining industry?

For most students the biggest expectation is, ‘Finally all my hard work is going to pay off.’ Realistically speaking, however, the starting salary package of most graduates is adequate only once saving and smart spending techniques have been adopted. Students also expect the same structured routine that they have become used to during their whole schooling career, but graduate programmes will require flexibility and time management skills.

As an undergraduate student, equipping yourself not only with technical tools but with the capacity to climb the social ladder is imperative for ensuring your own personal growth within the industry.

According to Boitumelo Tshetlanyane, a recent mining engineering graduate from Wits University and a South 32 employee, her expectations of the mining industry were of a very cut-throat and fast-paced environment. However, she has since learnt that while the industry is indeed fast-paced, the initiative and determination of the graduate will prevail.

In addition to this, the mining industry will require the graduate to have social networking skills, a clear vision of where they want to be headed, and to continually ask themselves the ever-important question ‘How do I become greater?’

Most undergraduates expect the work environment to be flexible and well planned, but as mentioned above the working environment will be influenced by the initiative and the motivation of the graduate. It will mean pushing yourself beyond your comfort zone and growing your social skills at varsity. It is not an easy path, but with determination and commitment all things are possible.
MENTORING: THE BILLION DOLLAR SECRET TO SUCCESS

Mentorship is a very important aspect of career development, because regardless of how brilliant a graduate is, they can always benefit from the knowledge and experience of those who have gone before them.

A mentor is important at any stage of the game. Whether you are just beginning your career path or you are well on your way, there is always someone one a step ahead who can provide invaluable guidance and wisdom. Oprah had Maya Angelou, Bill Gates has Warren Buffett and Plato had Socrates. A mentor can act as an advisor, a teacher, a sounding board or even a counselor. Some people seek to be a mentor and others seek mentors themselves. At any rate, a mentor can have a significant positive impact on professional development, personal growth and corporate success.

It is important to find a good mentor as early as possible in one’s career. Some companies offer a mentorship programme for their graduates, but if the graduate is not proactive, this becomes nothing more than a paper exercise. So understanding the importance of mentorship and how to incorporate it into a career development plan is vital for any graduate.

Finding a good mentor is the responsibility of the graduate, regardless of whether or not your company has a formal structure to facilitate this process. As the party...
set to benefit the most from a mentorship relationship, the graduate should be proactive in developing and maintaining such a relationship.

A good mentor should be someone who has advanced further than you in your chosen profession, but who is still in touch with the challenges you may be facing in your current role. Therefore as exciting as the idea is, having an executive of a multinational mining company as a mentor may not be the most appropriate mentorship relationship for a graduate. Senior executives are mostly concerned with grooming people at a senior management level, who can benefit mostly from their mentorship, as their successors.

A good mentor would have gone through the path that you are now on and has the benefit of providing you with a wider perspective when dealing with challenges or determining a direction for your career. As a graduate beginning your professional career, you may face situations and challenges that are completely new to you, and for which you are not prepared. Having a mentor as a sounding board and source of advice can prevent you from making career damaging mistakes, and allows you to impress your superiors by handling situations and challenges with the wisdom of a more experienced person.

The SAIMM offers a mentoring programme linking young professionals with experienced and knowledgeable mentors to provide consistent support, guidance and concrete help on a one-to-one basis to enhance their career development.

Some guidelines to starting a mentorship relationship include:

• Identify a mentor at an appropriate level in an organization. A guiding principle is that a mentor should be at least one level above your current position, but no more than four; beyond this point mentors cease becoming truly relevant to your progress. Also, try to avoid having a mentor in your direct line of reporting as this may result in conflict between mentorship and professional relationships.

• Having several mentors can be beneficial. A mentor close to your current level in the organization can help you deal with day-to-day professional issues, as they often tend to be more accessible. A mentor who is more advanced in their career can help you with overall career and personal development

• Identifying mentors outside your organization is also valuable, as these types of mentors can provide you with a wider perspective

• As with any new relationship, the mentee has to sell him/herself in a mentorship relationship.

Demonstrate enthusiasm and initiative to your prospective mentor, in order to generate enthusiasm around the prospect of mentoring you

• When approaching a stranger to mentor you, a direct approach where you ask: “Can you be my mentor?” may not always be best. As a stranger has no pre-existing relationship with you, they may not be convinced that mentoring you will be a good investment of their time. It is often better to allow a mentorship relationship to develop by interacting with your prospective mentor, where you ask for practical professional advice.

• Be proactive in managing the mentorship relationship and respect your mentor’s time. Understand that your mentor(s) has limited time to share with you, so initiate meetings on a regular basis with an understanding that your mentor has other commitments. Prepare for your meetings with your mentor by thinking about specific questions you have, and make note of any advice or references your mentor may direct you to.

It is important for graduates to note that not every mentorship relationship that you initiate will work out, but that mentorship is a very important pillar for developing a good career.

References on mentorship:
• Ten Steps to Finding Your Mentor: http://powertochange.com/world/findingmentor/
• The 3 Career Mentors Everyone Should Have: https://www.thehustle.com/advice/the-3-career-mentors-everyone-should-have
• 5 Simple but Strategic Steps for Finding a Good Mentor: https://www.thehustle.com/advice/the-5-career-mentors-everyone-should-have
So You Want to Be a Great Leader...

The thought of moving into a management role, having employees report to you, increasing your corporate responsibility, going on corporate trips and receiving a pay increase is attractive. The question is, do you know what it takes to not just be a good leader but to be a great leader? If you haven’t thought about it, here is where to start.

1. Be ready to serve 24/7
Leadership is about serving not taking. It means being available to people when they need help not when you need help. It means loving people with different backgrounds, priorities, and goals. People want to feel loved and appreciated. If you aren’t ready to love people, you aren’t ready to be a leader.

2. Work longer and harder than anyone else on the team
Some people believe being a leader means taking off time when you want and having other people do the work you don’t enjoy. It couldn’t be further from the truth. The minute you begin to lead this way, not only are you abusing the power that comes with the title, you aren’t focused on the people you serve.

3. Have a positive and optimistic attitude everyday
Being positive means you see the little bright spot shining through the clouds, not just a cloudy sky. As Jon Gordon wrote in The Energy Bus, “Desire, vision, and focus help you turn the bus in the right direction, but positive energy is necessary to take you where you want to go.” Leaders must be the beacon of positivity and optimism to their people because it’s contagious.

4. Have enthusiasm about your work that’s borderline insane
Enthusiasm comes from the greek word enthous, which means “inspired” or “filled with divine.” It doesn’t matter what industry you are in, having an enthusiasm about what you do is required to inspire others. Many people think they are enthusiastic about what they do, but have no clue how much passion is actually required to pass it on to others. If you only have a mild obsession and enthusiasm with your profession, chances of becoming a great leader are slim. The great part is this can grow over time with effort and energy.

5. Be comfortable, being uncomfortable
Leaders have to make decisions. Oftentimes, the decisions are tough ones that affect lives, relationships, and the future course of events. It’s paramount you get comfortable with being uncomfortable. If you have a clear purpose, vision, values and beliefs, it makes these decisions easier.

6. Have a standard for yourself that seems unattainable
Leaders are an example whether they like it or not. Every action, word, and mannerism, is observed. If you aren’t ready for that kind of attention and spotlight might want to rethink your desire to lead.

To become a leader is the most rewarding and fulfilling role you can have as a professional. A good understanding of what it really takes to not just be a good leader, but a great one will enable you to add value to your organization and the world.

“As we look ahead into the next century, leaders will be those who empower others.”
– Bill Gates
The SAIMM YPC would like to recommend some useful reading that can help you develop the skills for excelling not only as a professional, but as a person. It is our hope that this reading will be of value to you.

1. **So Good They Can’t Ignore You (Why Skills Trump Passion in the Quest for Work You Love),** by Cal Newport—
In this compelling book, Newport argues against the ‘follow your passion’ job philosophy that we so often hear. He makes the case that very few people have a pre-existing passion that informs their career choice, and that such an expectation often leads to frustration. According to Newport, most successful people make a conscious effort to work hard and become good at what they do, and this eventually results in their overall success and job satisfaction. This is a good read for anyone starting their career and wanting to determine how best to approach their development.

2. **How to Win Friends and Influence people,** by Dale Carnegie—
This has been a top-selling business book for over sixty years and is an essential read for any young professional wanting to develop their leadership abilities. The book focuses on the psychology of how people function, and helps the reader use this knowledge to their advantage and emerge as a leader.

3. **Never Eat Alone (and other Secrets to Success, One Relationship at a Time),** by Keith Ferazzi—
Keith Ferazzi addresses the very important skill of network-building. The author uses his personal experience to share strategies on how to reach out to people you admire and build a personal network that can help advance your career.

4. **Getting Things Done (the Art of Stress-free Productivity),** by David Allen—
This is a good read for anyone starting out their career, as it gives advice on issues such as time management (in the office and at home). It also talks to managing daily tasks while allowing for ‘thinking space’ to keep focus on long-term goals.

5. **Lean In (Women, Work and the Will to Lead),** by Sheryl Sandberg—
This book is aimed at women intending to have successful professional careers. The author highlights some of the things she believes women do to unintentionally that undermine their professional progress.

6. **Think and Grow Rich,** by Napoleon Hill
On your path towards accomplishing your goals, you will run into some staid bumps along the way. Think and Grow Rich highlights the power of focus and determination in reference to getting what you want out of life. This book is full of thought-provoking and relevant material for anyone looking to achieve their goals.

There are countless other books that can help equip young professionals for meaningful careers and lives; and these references provide a start to an endless journey of career and personal development. For more reading ideas, refer to the article: 30 business books every professional should read before turning 30.
1. Look The Part
As a young professional, one of the first things individuals will notice about you is your youthful appearance. You can’t really control it if you look young, but you can control if you dress young. Dressing sharp is important for professionals of any age; however, it’s especially important for young professionals trying to establish credibility. Dressing the part shows people that you take what you do very seriously. Make sure you always look the part and don’t give anyone a reason to dismiss your credibility based on your appearance.

2. Borrow Credibility
One of the best ways to establish credibility as a young professional is to borrow it from someone — a colleague, a boss, a mentor — who already has a lot of it. What this means is that you get someone well recognized in your industry to co-sign you with an introduction, reference, etc. Any time that you can have a mentor facilitate an introduction to a customer or investor, it’s much more likely for them to engage with you.

3. Know Your Stuff
As a young professional, you will lack experience compared to others, but it doesn’t mean you have to lack knowledge. Do your best to learn about the industry that you work in very quickly. What you lack in experience you can make up for in knowledge. People will underestimate how much you know, so prove them wrong. Never stop learning and be sure to stay up to date on current industry practices.

4. Always Deliver
Make sure you always deliver. You won’t get too many second chances early on as a young professional. It’s important that you always do your utmost to deliver. It’s inevitable that you will make mistakes, but regardless, if you have to deliver something late or not in its entirety, deliver it to the best degree you can and learn from your mistakes. Never make excuses, because as soon as you do that you will quickly begin losing your credibility.

5. Be A Team Player
To establish credibility with your peers, you must be willing to be a team player. If you want credibility, your audience has to know and understand you. They will never be able to do this if you are a lone wolf. Be willing to work closely with those in your team/organization. Show them that you’d like to contribute effort to a shared cause. The more your team gets to know you and your capabilities, the more trust and credibility you instill in them.

6. Put In Work
Numbers talk. At the end of the day, the easiest way to establish credibility is through achievements and accolades. The easiest way to accomplish achievements is through relentless amounts of hard work. Understand that these accomplishments will take time, but that’s where being young comes to your advantage. Time is on your side. Put in those long hours, but more importantly, get results. As soon as you start showing results, people will look at you differently. Establishing credibility is a lot easier when you have numbers to back you up.

7. Establish A Positive Web Presence
Having a web presence, specifically a positive web presence, is absolutely vital for any young professional trying to establish credibility. LinkedIn is the go-to social site for professional networking. Start by creating a LinkedIn profile and build your network on it. You should make sure any social media profiles or posts you have on the internet reflect a positive reputation. Lastly, enjoy the process and be patient. Credibility isn’t something that will be created overnight, but it’s something that will be established after endless evenings of hard work.

Adapted from “Impress Your Boss & Prove Your Worth At Work” by Eric Santos
Mining and metallurgy best practice graduate development programme guideline

PURPOSE
The purpose of this best practice guide is to contribute to recruitment and retention of local and regional talented and qualified persons in the disciplines of Mining and Metallurgical Engineering, and engineering in general in the mining and metallurgical industry. Its objective is to enhance the satisfaction of recent graduates as they make decisions in their early career development, and to provide a framework for companies that may not have a system in place to guide and assist recent graduates. The document introduces the different components that should be part of a graduate development programme. The actual details and implementation will depend on the conditions in the company, as well as the individual graduate.

WHY DO WE NEED A BEST PRACTICE?
The SAIMM believes that many graduates will find their own way in companies of their own choice. They will be guided by quality development programme and will map out a career path that suits them and the company they belong to. However, the SAIMM also believes that the publication of a ‘best practice’ graduate development programme will assist not only the recent graduate, but also the smaller companies in making the most of the important early stages of the employment relationship. First impressions are important for both the recent graduate and the company. Of necessity, this ‘best practice’ is generic.
**Generic components of an engineering graduate development programme (GDP)**

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<tr>
<th>Component</th>
<th>Description</th>
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<tr>
<td><strong>RECRUITMENT INTERVIEW</strong></td>
<td>It is common practice to arrange recruitment interviews, which are the start to the possible employment relationship. At the interview, there should be frank and honest discussion of the future expectations from both the employer and the prospective employee. The discussions should be minututed or recorded for both the interviewee and the employer. The interview should not be time-limited, and the graduate should be encouraged to interrogate the employer’s expectations and the opportunities or problems that could be expected. The graduate may be given the opportunity, or be required, to place in writing his understanding of the important parts of the interview process, before finally accepting the employment conditions. One of the important discussion points will be the details of the development programme that the graduate will participate in. This will ensure no misunderstanding as the development of the graduate proceeds.</td>
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<td><strong>EMPLOYMENT CONTRACT</strong></td>
<td>As well as the normal conditions of service for any employee, an employment contract with a recent graduate should include special sections dealing with the development programme. This will formalize the employer’s expectations and ensure that the graduate understands the purpose and implications of the development programme.</td>
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<td><strong>TIMELINE FOR DEVELOPMENT PROGRAMME</strong></td>
<td>A graduate development programme for engineers should be a minimum of two years and be flexible, depending on the nature of the operations and the opportunities available. This timeline should be at least as long as it takes to complete a ‘Stage 2 License to Practice’ type qualification e.g. ECSA registration. Depending on the company’s long-term objectives, the development plan could be as long as five years. After this length of time it would be expected that several levels of work have been concluded and that the graduate would have reached a substantive position in the company structure that is commensurate with the investment in the development programme. Milestones must be identified in the development programme.</td>
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<td><strong>INDUCTION</strong></td>
<td>All engineering graduates should be given a comprehensive induction into the company. This will involve activities such as occupational health and safety courses, visits to all sections of the company, and meeting with senior managers and executives across the broad range of activities of the company. The induction should take at least two weeks and be as comprehensive as possible. It could include such social functions as lunch with the executive team and an introduction to social activities and to other similar individuals.</td>
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<td><strong>CAREER MAPPING</strong></td>
<td>Any career development programme should have a long-term objective - “Where would you expect to be in 10–15 years?” The development programme should be aimed at this long-term perspective and include the typical timelines for steps to be completed towards the goal. A graduate will always have ambitions (whether realistic or not) that involve a long-term view, and the objectives of the development programme should be aligned with this long-term view. This component will (like many others) be adjusted to meet the reality of the individual’s progress through the development programme.</td>
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<td><strong>EXPERIENTIAL LEARNING</strong></td>
<td>Many graduates will have unrealistic expectations of their abilities in the real world of work. The gap between academic learning and the operations of an organization is particularly wide in the engineering disciplines. Experiential learning is the learning that takes place in the work environment, dealing sometimes with routine operational matters that the graduate could find particularly challenging (getting your hands dirty). This would be particularly true in most careers in the mining and metallurgy fields. The graduate may feel that the operational components are below their level, while the company expects the graduate to be particularly skilled in these operational aspects. This conflict situation must be resolved by the formal inclusion in the graduate’s development programme of the detail of experiential learning required by the company. Time periods for the operational components of experiential learning should be limited to ensure that the graduate realizes that this is for the purpose of development and understanding rather than operational performance. The development of any graduate will depend on his/her life experiences. Flexibility must be maintained in the programme to develop the necessary skills before progressing to new areas of development. Operational work skills breed a different type of confidence than academic university skills. Attempts must be made in the development programme to integrate academic skills with operational skills. This is best done by including project work with the operational skills development so that a degree of intellectual activity can be incorporated into the operational skills development. As an example, a mining engineer who is required to learn how to charge up blast-holes with explosives could also be assigned a project on methods for tamping of holes. This ensures that intellectual capacity is included, and may result in a positive improvement in operations. This will in turn build the graduate’s confidence. Experiential learning should be supervised by an experienced and qualified person. Care must be exercised in the selection of the supervisor so that the maximum benefit is achieved and good work habits are cultivated.</td>
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Graduates are employed by companies for different purposes. Any development programme for graduates must include both in-house and external, formal development courses where the graduate would be expected to gain theoretical and/or practical knowledge for the purpose of employment. Beyond the purely utilitarian courses, the graduate should be given the opportunity to develop a broad range of additional knowledge linked to the company operations. One would hope that the purpose of employment of a graduate would be to develop such a person into senior positions, and this would be achieved by broad development and promoting the habit of lifelong learning. Topics such as conflict management, report writing, assertiveness, language proficiency, communication, project planning, personal finance, management finance, specialist software etc. as appropriate, should be included in the development plan. Individual performance and interest in the courses must be monitored.

The need for special courses could be identified through formal psychometric tests – naturally, graduates arrive in the company with different levels of positive attributes and deficiencies. A strong graduate development programme will include psychometric tests to identify areas of strength and weakness. A graduate should admit existing weaknesses and be grateful for the opportunity to overcome these weaknesses through interventions supported by the company.

Even physical fitness may be a requirement, and in any case, any graduate should be convinced that mental and physical fitness result in better work performance. This could well be included in a comprehensive graduate development programme.

### FORMAL COURSES

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### CULTURAL ADAPTATION

- Every company has a corporate culture. The graduate should be made aware of the company norms of behaviour (e.g. dress code), timekeeping, bureaucracy, reporting formalities, protocols, outside work activities (community work), expectation etc. that are seen as an important part of cultural adaption.
- The graduate should be exposed to these aspects as early in the development programme as possible.

### MENTORING

- Beyond the formalized training activities and line management functions, every recently employed graduate should seek out (with the aid of the company) a suitable mentor.
- Such a person would normally be within the company, but this may not necessarily be so.
- A mentor would be some person who has reached a senior position in the direction that the graduate wishes to follow.
- The mentor would not be within three line-management levels of the graduate.
- The purpose of explicitly including such a person in the development programme is to ensure early detection of problems and to maximize the potential of the graduate.
- The mentor would be selected by the graduate.
- Formalized, regular interaction would take place between mentor and mentee with discussions on both work and social problems and opportunity areas.

### CONFIDENCE BUILDING

- Included in the individualized graduate development programme, there would be a programme of ‘confidence building’.
- If areas of weakness have been identified, then logical small steps are taken to overcome the weaknesses through the inclusion of meaningful step-by-step confidence builders.
- In any event, confidence must be justified by the achievement of certain goals within the development programme.
- This could include such items as visits to the workplace by senior officials, panel interviews, work project reports of success etc.

### CAREER/DEVELOPMENT PROGRESS EVALUATION

- Formalized progress interviews conducted by senior officials must be incorporated into the graduate development programme.
- These would be more frequent at the start of the employment contract, e.g. every three months during the first year and at least twice per year in the subsequent years.

### PROVIDING CHALLENGES

- Any graduate needs to be intellectually challenged, particularly in the early stages of the employment contract.
- The graduate should be given substantive research work that is appropriate to the long-term outcomes of the development programme.
- Responsibility should be given for substantive work as early as practically possible.
- A graduate without challenges will become dissatisfied and stagnate.

### PROVIDING OPPORTUNITIES

- Graduates are innovative.
- Opportunity should be given as early as possible for the graduate to make a substantive contribution appropriate to his skills.
- This can be in the work environment or the social environment.
- Opportunities for self-development should be provided and supported.
- The innovative spirit must be nurtured for the long-term development of the graduate.
INTER- AND INTRA-COMPANY PLACEMENTS

As opportunities arise and wherever possible, the graduate should visit or work in as broad a range of activities as possible during the development programme. International perspectives have a positive influence on the operations, especially if applied through youthful intellect. The positive results of such opportunities will impact both on the graduate and the company. Intra-company visits and work opportunities in different sections of the operations give great perspective and develop the graduate optimally for the long term.

PROFESSIONAL ASSOCIATIONS AND SYMPOSIUMS

During the GDP, the graduate should be encouraged to become a member of the appropriate professional body or learned society, and to participate in its activities.

PROFESSIONAL REGISTRATION – ECSA

As a qualified engineer expected to do ‘engineering work’ as defined in the Built Environment Act, the graduate must be supported and coached in accordance with the requirements of ECSA. The graduate should register as a ‘Candidate Engineer’ at the appropriate level for the work he is expected to be involved with in the long term – Professional Engineer, Professional Engineering Technologist, Professional Engineering Technician, or Professional Certificate.

Engineer. This registration also depends on the base qualification. Supporting Engineering Professional mentors should be appropriately identified and approached. ECSA stage 2 professional development towards appropriate registration should be monitored as progress occurs. The whole of the ECSA registration process should be part of the graduate development programme unless the choice of career path is not particularly related to engineering work.

ECSA demands Continuous Professional Development (CPD points) activities. These activities must be carried out at accredited engineering functions so as to ensure lifelong learning. This is in line with the requirements of a successful graduate development programme.

CONFLICT INDICATORS

Recent graduates may become despondent or frustrated at some time during the development programme. Mechanisms must be put in place to identify these conditions so as to maximize the effective development of the individual. Reporting and communication must be a major component of the development programme. This, together with open dialogue, will ameliorate the effects and provide for early detection of such conflict conditions.

ESTABLISHING AND UTILIZING TALENTS

Graduates will often bring with them far more than just technical academic knowledge. These attributes or talents may be utilized and developed further during the development programme to the benefit of the graduate and the organization. Particularly such skills as teaching, sport, and music could be considered.

The graduate should be encouraged to participate in the development of others using his additional talents or skills. This will develop community engagement and respect within the community.

SOCIAL INTEGRATION

Graduates must be integrated into the community as well as in the work environment, and should be required to present themselves in socially acceptable ways. This could be in terms of cultural understanding (appropriate behaviour in special conditions), etiquette, dress, introductions, names, public speaking, presentations etc. Such development should form a part of the graduate development programme.

COMMUNITY DEVELOPMENT

Graduates must participate in community projects on a ‘voluntary’ basis. This should be a part of the graduate development programme.

INDIVIDUALITY

Although there are generic components to the ideal graduate development programme, it must be emphasized that each programme should be tailored to take into account the particular discipline of the graduate, specific needs of the graduate, and in particular, requirements of the company.
The SAIMM Career and Leadership Conference 2017

Become a Mining Imagineer

The Department of Mining Engineering at the University of Pretoria offers postgraduate programmes to graduates who wish to enhance their skills in Mining Engineering.

Various postgraduate specialisation options are available, including rock mechanics, mine design, rock breaking and surface mining, mine ventilation engineering and underground mining methods. The curriculum also includes management and leadership, risk management and mineral economics as areas which can be pursued.

The Department boasts state-of-the-art facilities including lecture rooms, study centres, access to technology and the Kumba Virtual Reality Centre for Mine Design.

Honours degrees: (minimum duration: one year / maximum three years)

• Bachelor of Engineering (Honours) — BEng(Hons)
• Bachelor of Science (Honours) — BSc(Hons) Applied Science

Master's degrees: (minimum duration: one year / maximum four years)

• Master of Engineering — MEng
• Master of Science — MSc Applied Science

Doctorates: (minimum duration: two years)

• Doctor of Philosophy — PhD
• Doctor of Philosophy in Engineering — PhD(Eng)
• Doctor of Engineering

For more information and entry requirements, visit www.up.ac.za/mining-engineering