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WORK INTEGRATED LEARNING:

POLICIES, PROCEDURES AND GUIDELINES

2016 Edition

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1.

INTRODUCTION: PURPOSE OF WORK INTEGRATED LEARNING

In terms of University policy, the Faculty of Engineering and Technology is able to make a considerable contribution to relieving the skilled manpower shortage experienced in all technical fields in South Africa. The primary task of the University is to provide education/learning to equip persons with the necessary skills and technical knowledge for the industry and commerce labour market.

University education therefore focuses on particular careers. The introduction of an effective education and learning scheme necessitates careful planning in close collaboration with employers, professional bodies and career organisations in commerce, industry and the public sector. Consequently, the curriculum and the particular syllabi are designed in such a manner that the focus continuously remains on the particular career for which the student is being prepared. In this regard the study program and the relevant qualification, with which the student will be rewarded, should reflect amongst others the following characteristics:

- * Educational soundness/responsibility
- * Meet the needs and expectations of industry, commerce and the public sector or a segment thereof.
- * Multidisciplinary, integrated subject packages.
- * Accommodate particular career capabilities, skills and functional knowledge.
- * Immediate, useful employment of the diplomat is made possible.
- * Possibility of furthering studies.

The structured theoretical education and the Work Integrated Learning partnership, as offered by the University and the employer respectively, form the basis of this co-operative education model. Work Integrated Learning refers to that component of co-operative education that can only be conducted by the employer. This learning provides the student with an opportunity to apply and develop the academic knowledge he/she received at the University to relevant problem situations in industry and exposure to typical organisational culture, human relations and working conditions.

The policy, procedures and guidelines set out in this document benefits the co-operative partnership (student, University, employer) in developing and introducing effective education/learning programs and by being adaptable to technological developments within a relatively short period of time. With suitable guidance and supervision the student is taught the responsibility to work independently and to develop an awareness of the ethics and requirements of industry.

The Faculty of Engineering and Technology trusts that all students will make full use of this opportunity to develop their talents and equip them to take up their places as citizens of this country and contribute to the well being of society and as such be loyal alumni and proud bearers of the University message in their future careers.

2. AIMS AND OBJECTIVES

The aim of the Work Integrated Learning program is to outline the work method, responsibilities and duties of all stakeholders involved in the process. In order to ensure that it is executed efficiently and effectively to set standards, the program must achieve the following:

- 2.1 The policy must meet the requirements as set by the HIGHER EDUCATION SOUTH AFRICA (HESA), HIGHER EDUCATION QUALITY COMMITTEE (HEQC), ENGINEERING COUNCIL OF SOUTH AFRICA (ECSA) and VAAL UNIVERSITY OF TECHNOLOGY (VUT).
- 2.2 Comply with various academic principles of education (see HIGHER EDUCATION SOUTH AFRICA (HESA), HIGHER EDUCATION QUALITY COMMITTEE (HEQC), regulations
- 2.3 Accepted, supported and approved by employers.
- 2.4 Provide the student with the necessary knowledge and experience for a qualification to be awarded.

3. MANAGEMENT OF WORK INTEGRATED LEARNING

3.1 STRUCTURE

The Faculty of Engineering manages Work Integrated Learning at the University through an integrated infra structure composed of:

- Work Integrated Learning Co-ordinators (Faculty of Engineering & Technology)
- Academic Departments in the Faculty of Engineering & Technology
- Department of Co-operative Education.

The integrated model involves a multifaceted approach of co-ordination with the aim to serve students, employers and the University. This is done by centralising employer and student placement administration at the Co-operative Education department and decentralising academic administration and instructional matters to the various departmental co-ordinators of the particular Engineering Departments in the Faculty respectively. This maintains the various Academic Department's alliance while providing for coherent and independent quality control and standardisation of service to employers.

3.2 FUNCTIONS OF DEPARTMENTS

3.2.1 ACADEMIC DEPARTMENTS

- **Provide guidelines** for Work Integrated Learning that relates to specific educational programs.

- **Monitor and evaluate** Work Integrated Learning in collaboration with the employers according to HIGHER EDUCATION SOUTH AFRICA (HESA), HIGHER EDUCATION QUALITY COMMITTEE (HEQC), and ENGINEERING COUNCIL OF SOUTH AFRICA (ECSA) regulations.
- **Approve employer facilities** and programs for Work Integrated Learning.
- **Liaise with employers** regarding learning needs through visitation and advisory committee meetings.
- **Initiate/execute** accreditation of employers.

3.2.2 DEPARTMENT OF CO-OPERATIVE EDUCATION

- **Registration** of students once placed at employers are done at:

 Student Admission & Registration (Building CW25)
 Tel: 016-950-9122
 Fax: 086-573-1531
 Email: carolr@vut.ac.za
- **Continued Contact** with students placed for the purposes of progress and project reports submission and academic control.
- **Receiving and control of Work Integrated Learning diaries and reports** after completion of Work Integrated Learning.
- **Establishing and maintaining** control data banks of:
 - (i) Employers Learning program accreditation applications, certificates awarded and renewal notifications (after 3 years).
 - (ii) Student placement information, performance evaluations, and completion of Work Integrated Learning at their respective employers.
- **Identify and visit** new employers to explain the importance and benefits of co-operative education and to expand on the University's existing employer base.
- **Maintain student records** and CV's required for diplomat placement opportunities.
- **Follow-up** and evaluate incoming enquiries from organisations interested in co-operative education.
- **Inform students** of placement opportunities.
- **Liaise with employers** on all activities regarding placement of students.
- **Inquire into** and exploring mutual needs between industry and the University.

4. CO-OPERATIVE EDUCATION PARTNERSHIP

4.1 THE UNIVERSITY'S RESPONSIBILITIES

The University must develop and maintain a relevant curriculum that reflects the needs of employers. It must provide an effective mechanism to assist Work Integrated Learning students in the job search process if they are unemployed.

The University must work with employers, assisting in the development of suitable work experiences, and evaluation techniques and instruments. They must monitor the student's progress through personal visits, telephone calls or by correspondence.

It must further promote the co-operative education program on the campus and in the community. The University must also develop a system that will maintain adaptable campus co-operative education records.

4.1.1 SPECIFIC RESPONSIBILITIES

- * Academic staff must advise employers on how to set up Work Integrated Learning programs.
- * The University will provide the general guidelines for Work Integrated Learning, which relate to specific educational programs, syllabi and learning periods.
- * The University must ratify Work Integrated Learning with reference to the applicability and acceptability of awarding a certificate.

4.1.2 MONITORING, EVALUATION AND PROGRAM APPROVAL

- * Academic staff will monitor and evaluate Work Integrated Learning in collaboration with the employers.
- * Monitoring and evaluation must take place according to HIGHER EDUCATION SOUTH AFRICA (HESA), HIGHER EDUCATION QUALITY COMMITTEE (HEQC), and ENGINEERING COUNCIL OF SOUTH AFRICA (ECSA) regulations.
- * The University must approve employer learning facilities.
- * The University may approve employers to offer learning. Certificates will be awarded to employers for specific learning programs. Approved learning programs will be valid for a period of 3 years.
- * University staff may visit employers periodically to ensure that the Work Integrated Learning being offered is according to standard.
- * When University staff visits the employers, students will be required to submit documented proof that the learning is according to set standards.

- * The University requires students to submit progress reports during their period of Work Integrated Learning.
- * The University may consider recognising Work Integrated Learning which was completed before first registration. Applications will be dealt with on merit. (R.P.L).
- * The University may consider recognising Work Integrated Learning which has been approved by other Universities.

4.2

THE STUDENT'S RESPONSIBILITIES

Co-operative education students are responsible for their own Work Integrated Learning opportunity with industry and will receive instruction and assistance to do so. The University cannot guarantee suitable placement although every attempt will be made to assist students in the job search process. The University has the responsibility for directing and assisting students to employment opportunities in relation to the labour market. Given these opportunities, the student is the one who is responsible for procuring the job placement.

4.2.1 SPECIFIC RESPONSIBILITIES

- * Students must register for the Work Integrated Learning subjects within one month after starting with Work Integrated Learning with the employer.
- * Show respect and understanding towards the goals, rules and philosophies of the employer and the University.
- * Take responsibility for co-ordinating and financing transportation, accommodation and related expenses incurred by the Work Integrated Learning process.
- * Notify the University of any change of address where Work Integrated Learning is undertaken.
- * Fulfil both Work Integrated Learning and academic education requirements before his/her application for a qualification.
- * The student must ensure that an Work Integrated Learning diary, provided by the employer, is kept up to date and signed by the employer.
- * It is the student's responsibility to ensure that the Work Integrated Learning received is up to standard and complies with the University's guidelines.
- * A student can undergo Work Integrated Learning with more than one employer. An employer can employ a student for more than one working term provided that there is growth in responsibilities and further skills development.
- * A student may be requested to undergo an interview with the Work Integrated Learning mentor/supervisor during or at the completion of a work period.

4.3

EMPLOYER'S RESPONSIBILITIES

The employer makes available their learning facilities and staff for purposes of Work Integrated Learning. The exact nature of this learning is based on collaboration between the employer and the University and in accordance with the requirements of the specific engineering discipline.

Employers inform the University of placement opportunities. They should conduct an orientation at the beginning of the work semester to familiarise the student with the working environment and the employer's expectations. An increasing degree of challenging duties according to the student's capabilities and number of successive work semesters should be provided.

4.3.1 SPECIFIC RESPONSIBILITIES

- * The employer and student may negotiate as to when Work Integrated Learning is to take place. Cognisance should however be taken of the nature of the academic curriculum. Academic staff should be contacted to provide advice/assistance.
- * The employer, in collaboration with the University, controls the learning program and evaluates the student's work.
- * A record of the student's Work Integrated Learning evaluation must be maintained for monitoring and reference purposes. An Work Integrated Learning diary, provided by the employer, should be used for this purpose.
- * On completion of the Work Integrated Learning, the Work Integrated Learning evaluation form must be signed by the mentor and the employer's official stamp placed on the document.
- * Employers, who have been approved by the University, may notify the relevant academic head of department, who will notify Academic Administration whether the student has met the requirements.
- * Where employers are not able to offer Work Integrated Learning, partial learning at an approved institution may be considered.

5.

WORK INTEGRATED LEARNING PROCEDURES

5.1

REGISTRATION

It is compulsory for all engineering students to formally register for Work Integrated Learning at the University. (Appendix A, refers) The registration must take place not later than one month after starting the Work Integrated Learning. Students will, however, not be registered without proof of suitable Work Integrated Learning opportunity. The student must hand in a letter of the company stating that this student will obtain his/her Work Integrated Learning opportunity and all relevant

information must be given in this letter (See appendix A). This procedure applies to both learning periods (P1 and P2).

The first period of Work Integrated Learning should preferably follow the first year (S1 and S2) of uninterrupted theoretical learning at the University. Students will normally not be allowed to commence their Work Integrated Learning before the first academic semester has been completed. This will give them sufficient theoretical knowledge to benefit from the Learning, especially as they progress through the more advanced subject matter of the S3 and S4 courses.

Registration for Work Integrated Learning can be done at the following address:

Vaal University of Technology
Student Admission & Registration (Building CW25)
Tel: (016) 950-9122 or carolr@vut.ac.za

Note: Although registration takes place continuously through the year, this office will be closed during public and University holidays.

5.2

SCOPE AND DURATION OF WORK INTEGRATED LEARNING

- * To fulfil the requirements of the National Diploma to be awarded, a student must have completed a minimum period of 52 weeks, which can include annual leave, (the equivalent of two academic semesters) of Work Integrated Learning. The Learning should take place under the guidance of a qualified supervisor (or mentor) in accordance with the syllabus guidelines. These guidelines are obtainable from the Co-operative Education Office !
- * Although the two semesters Work Integrated Learning should preferably not to take place consecutively, the following procedure is suggested:
 - The multidisciplinary skills basis preferred by employers should be provided during the first phases of Learning, whilst specialisation in a discipline and specific subject area should only be introduced in the later phases of learning.
 - After completion of the student's learning period, the employer has to certify that he/she has passed the learning successfully.
 - **If the employer realises that the student does not meet the minimum requirements for the National Diploma and his/her achievements are still not up to standard, the period of Work Integrated Learning could be extended or terminated.**

PROGRESS/PROJECT REPORTS

5.3

As a mentor the employer fulfils a very important and much appreciated role in the education of engineering students. The faculty of engineering hopes that employers will gain just as much satisfaction from doing this as the students do. Employers are requested to call the University for assistance or to comment on the contents of this guide and let them know of anything that may be of importance and to the advantage of students. The employers and students are stakeholders in the co-

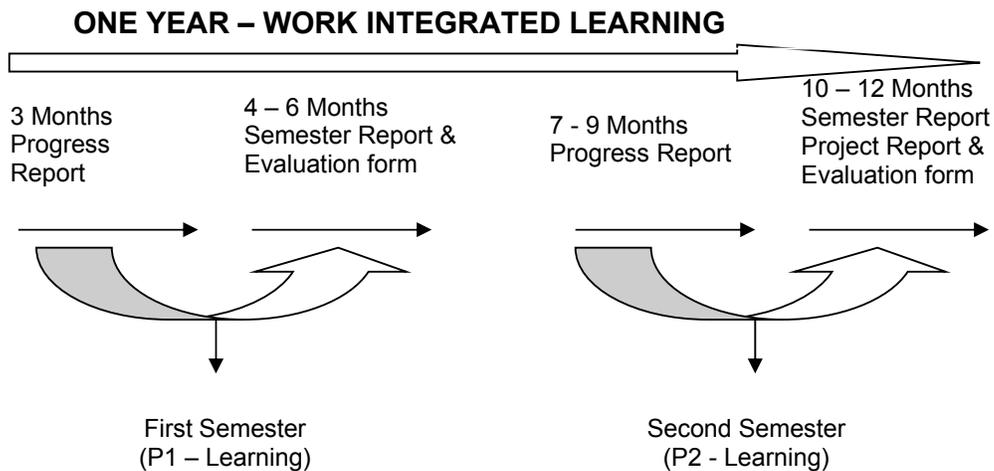
operative education business and positive contributions are always welcome to facilitate continuous improvement.

- * It is envisaged that, within the framework of the Work Integrated Learning program, the student will be required to undergo certain learning experiences and do some project work.
- * ENGINEERING COUNCIL OF SOUTH AFRICA (ECSA)/HIGHER EDUCATION SOUTH AFRICA (HESA), HIGHER EDUCATION QUALITY COMMITTEE (HEQC), requires that students submit regular progress reports that should reflect their learning experiences towards their particular anticipated careers. As a resolution to this requirement, and to facilitate mutual co-operation between all stakeholders (Faculty, Employers and Students), the Work Integrated Learning committee of the faculty requires three monthly progress reports for both learning periods. The following procedure should be followed:
 - (i) The student is responsible for the writing of the report. The format of the report should be based on technical report writing as dealt with in the subject Communication Skills I. The report must be written in the first person.
 - (ii) The report should cover all learning experiences to the date of submission of the report, including investigations, studies and/or exercises done/partaken by the student.
 - (iii) It is also important that the student specifically reflects in his/her report the extent to which the program is contributing to his/her particular development progress.
 - (iv) The employer must co-sign the report before it is submitted.

The reports may be mailed to:

**Vaal University of Technology
Co-operative Education Department
Attention: Mrs. C Dos Santos
Private Bag X021
VANDERBIJLPARK
1900**

- * A guideline for the format of **project reports** is also obtainable from the Co-operative Education Office (N203). These reports should be evaluated, recorded and included in the submission. Project reports should also be available for inspection during monitoring visits.



5.4

MONITORING OF STUDENTS DURING WORK INTEGRATED LEARNING

- * The HIGHER EDUCATION QUALITY COMMITTEE (HEQC) requires that students be continuously monitored throughout their Work Integrated Learning period. A staff member/s from each engineering discipline in the Faculty of Engineering & Technology should visit the respective students and their supervisors at least once per semester.
 - * The relevant University staff will notify the employers in advance of monitoring visits so that proper arrangements can be made for the student and his supervisor to be available for interviews.
 - * Students and their supervisors are encouraged to discuss any problems/questions/suggestions regarding Work Integrated Learning /University education/administration procedures during such visits or advised to contact the responsible Head of Department with matters of importance and urgency.
- For contact persons refer to page 2.
- * The student must always have his/her Work Integrated Learning diary, including completed project reports and assignments, available at monitoring interviews for evaluation purposes.

5.5

EVALUATION OF WORK INTEGRATED LEARNING – APPLICATION FOR A DIPLOMA

- * After completion of both the theoretical and Work Integrated Learning component of the National Diploma the student must apply for the particular diploma to be awarded.
- * When applying for his/her diploma, the candidate will have to personally contact the Examination Department (S105) with the following completed documents:
 - (i) Application form

- (ii) Covering letter from the employer
- (iii) Fully completed evaluation form
- (iv) Photo copy of his/her ID-book where the ID number and photo appears
- (v) A copy of a project report and
- (vi) A semester report. The report must be written in the first person.

If all documents are not included for the Diploma application, the application will be rejected.

If any problem regarding the application arises, the University will contact the student.

- * The examination office will process the documents for evaluation and approval by the respective Heads of Departments.
- * It will take about two months after the application for a diploma has been received, before the student will receive a letter confirming the approval/failure of his/her application. Students/employers are therefore advised to submit their applications as early as possible (i.e. not later than the end of January for the Autumn Diploma Ceremony and the end of July for the Spring Diploma Ceremony) to eliminate any inconvenience.

Students and employers must be patient and not phone the University regarding this matter.

6.

WORK INTEGRATED LEARNING GUIDELINES

6.1

LEARNING PROGRAM DEVELOPMENT

6.1.1 GENERAL

The learning program should be career orientated and designed to integrate the academic learning with the practical skills required in industry. Employers should design the learning program within the flexibility of their own requirements, facilities and equipment.

Technicians are that group of people whose education and learning allows them to be of immediate support to the engineering profession in general and to provide the information on which management discussions and consequent decisions are based and executed. The student therefore requires learning and education that will enable him/her to understand the work for which he/she will be responsible in that particular career.

To ensure optimal contribution to his employer, as well as to industry as a whole, it is important that the learning the Technician receives be of a high standard to ensure that he/she obtains a high level of proficiency in his/her subject area.

6.1.2 IMPORTANT PROGRAM ASPECTS

The employer should take cognizance of the following factors in planning detailed Work Integrated Learning programs for University students:

- * The University's requirements towards the awarding of qualifications must be met.
- * As an initial priority the student should be acquainted with the operational procedures of the organisation, for example the structure, scope, functions, lines of communication and command.
- * The program should generally be vocationally orientated, supplemented with provisions such as communication abilities and social awareness. The student should be made aware of the ethics and responsibilities as demanded by the engineering profession.
- * The program should aim at the integration of academic learning and application of practical skills. The practical program should provide the student with opportunities to apply previously learned theories and to provide stimulation for further increase of theoretical knowledge.
- * The program should be clearly structured with the formal learning and on-the-job components clearly specified.
- * The emphasis in the program should be on learning by "doing" rather than learning by observation. The program should stimulate the acquiring of practical skills and techniques by paying special attention to the field of application.
- * The program should be such that the intellectual demands on the student are increased as he/she progresses through the program. Degrees of difficulty and responsibility should be increased as the student achieves greater skills proficiency.

Emphasis must be on project work, especially in the second semester of learning.

- * The program should be such that:
 - (a) The student is allowed to increasingly exercise his/her own judgement and improve his/her decision-making abilities.
 - (b) The student is exposed to as wide a range as possible of structured experience within set parameters.
 - (c) The program is not always production-orientated.
- * Although it might be possible that the program, of necessity, contain a certain amount of routine and repetitive work, misuse of the student must be guarded against at all times.

- * The program should provide for a control, monitoring and evaluation system of skills performance. The role of the mentor in seeing to the well being of the student is of utmost importance.
- * The employer's program should be constantly monitored, revised and updated as required.

6.1.3 WORK INTEGRATED LEARNING CURRICULA

- The learning program provided by the employers should be seen as an integral part of co-operative education in which academic tuition is continuously integrated with real industry related experiences. Students should therefore be given the opportunity to put course material to test in practice, and to master the theoretical course content with practical work experiences.
- To assist the employers in the planning of their learning program, the University will supply guidelines, including the following information for each of the various engineering diploma programs:
 - (i) Course structure, specific requirements and prerequisites.
 - (ii) Core syllabi for subjects included in the course structure.
 - (iii) Work Integrated Learning requirements related to particular vocations or careers.
- These guidelines and related information are obtainable from the Co-operative Education Department

6.2 EMPLOYER'S LEARNING PROGRAM APPROVAL

When learning people for occupational directed careers the interaction between the student, the employer and the educational institution is of utmost importance.

Organisations providing Work Integrated Learning for a significant number of students will benefit from obtaining program approval from the University. Such accreditation holds the following advantages:

- * The organisation can engage students for Work Integrated Learning with the assurance that their learning programs will be acceptable to Universities.
- * Students can accept learning with approved organisations with the assurance that their learning will be acceptable to the University provided they meet their employer's requirements during their learning period.
- * Approved organisations can independently evaluate their students progress in the workplace with the University acting as moderator only (monitoring).

A company with a structured learning program/schedule can submit this schedule to the Faculty of Engineering & Technology (for the attention of the respective engineering department) for assessment of the following criteria:

- The scope and extent to which the program structure provides exposure and experience in the different fields specified in the syllabi for Work Integrated Learning.
- Adequacy of the learning and experience of personnel, overseeing the learning of students, to act as supervisors.
- Frequency and extent to which students will be supervised and evaluated (Supervisors).
- Adequacy of facilities available to give students hands-on experience in the workplace.
- The extent to which the assessment of the students learning is carried out in accordance with the guidelines, norms and criteria laid down by the Faculty of Engineering & Technology.
- Whether the organisation actively takes part in the co-operative education programs of the Vaal University of Technology.

The organisations that wish to obtain approval must follow the guidelines provided in this document, document their program and have the necessary resources in terms of equipment and qualified staff. Application for approval should be mailed to the Faculty of Engineering (for the attention of the respective Heads of Department) at the following address:

Vaal University of Technology

Head of Department:
Private Bag X021
Vanderbijlpark
1900

Upon approval, by the Faculty’s Evaluation Team, a Certificate of Recognition, endorsing this learning program/schedule, is issued to a particular company. The certificate will be valid for a period of three years.

6.3

WORK INTEGRATED LEARNING DIARY

6.3.1 PURPOSE

Work Integrated Learning diaries are used by students to record all the learning he/she received during the respective learning periods. It is the students’ responsibility to ensure that the Work Integrated Learning diary is kept up to date. The Work Integrated Learning diary serves as documented proof of Learning received/progress made and should always be available to University staff during monitoring visits.

6.3.2 FORMAT

Employers develop their own unique Work Integrated Learning diaries for use by their students in learning. This approach ensures that Work Integrated Learning

diary entries and student progress evaluations coincide with the various employer's own learning program needs and sequence.

If required the assistance of University staff may be requested to develop Work Integrated Learning diaries. However, as a general guideline, it is suggested that the Work Integrated Learning diary at least contains the following elements:

- * Purpose and objectives of the employer's learning program.
- * Program flow-chart indicating the program requirements for learning periods P1 and P2.
- * Student's particulars
- * Record of the students progress through the different course levels (Subjects enrolled/passed/failed, rewrites, etc.)
- * Progress evaluation sheets.
- * Students performance progress reports (As Annexures).
- * Any other information/control procedures the employer wishes to incorporate.
- * Summary and certification of Work Integrated Learning completed. (Evaluation Sheet, Appendix D).

6.3.3 EVALUATION OF WORK INTEGRATED LEARNING

It is obvious that in a demanding and sometimes threatening corporate world, affected by ever increasing change, emphasis on performance, competence, effectiveness and credibility are the key criteria.

The learning program is aimed at learning the students about organisational cultures, interpersonal communications and the handling their jobs and careers, and to provide them with an armory of life skills essential for management and success.

Likewise, in the evaluation of the student's learning progress, it is essential that the following qualities need to be considered:

- * Insight in the assignment area.
- * Dedication to assignments, projects, etc.
- * Quality of the result.
- * Initiative demonstrated.
- * Theoretical insight.
- * Practical insight
- * Method of work

- * Social Skills
- * Reporting: Format and Contents
- * Verbal reporting skills
- * Total impression

6.4

MENTORSHIP

Mentorship is the process whereby knowledge, skills, behaviors, attitudes and experiences are transmitted to students under the guidance and supervision of an experienced supervisor. The supervisor must preferably be a professional engineer/technologist, registered with ENGINEERING COUNCIL OF SOUTH AFRICA (ECOSA), with several years' on-the-job experience. All such professionals are under a moral and professional obligation to develop the potential and to encourage the personal growth of the students.

Monitoring as such takes place when the experienced person provides guidance and support by fulfilling the following important roles:

- **Stimulate** students into deciding for themselves what they need to learn and do to improve performance and prepare them for greater responsibility.
- **Encourage** and train students to use analytical problem-solving techniques: getting the facts, defining the problem, reviewing alternative solutions and evaluating each alternative before a decision.
- **Create** opportunities for students to serve on committees and to build up a network of contacts to get their ideas accepted.
- **Challenge** and confront the learner giving them practice in presenting their arguments and handling counter arguments

6.5

ENGINEERING COUNCIL OF SOUTH AFRICA (ECOSA)

6.5.1 PROFESSIONAL REGISTRATION

The ENGINEERING COUNCIL OF SOUTH AFRICA (ECOSA) registers Technicians and Technologists according to the requirements of the Engineering Profession of South Africa Act. (Act 114 of 1990) University engineering students can register professionally, by making use of the following route, as

- * **An Engineering Technician in training**

The Council, in its own right, accredits the National Diploma in Engineering for purposes of professional registration. The Council also considers it essential that the pre-diploma learning, which forms an integral part of the

diploma, be planned, structured and controlled. The practical career-oriented learning, therefore, must enrich and amplify the student's academic knowledge.

If the pre-diploma learning complies with the requirements laid down by the Council the student should be able to achieve the status of a fully-fledged Engineering Technician within the minimum time of **two years** after receiving his/her National Diploma.

* **A Registered Engineering Technician (Abbreviated as Reg Eng Tech)**

Application will only be successful if the person has undergone a full period of **two years** post diploma Learning that meets the following requirements acceptable to ENGINEERING COUNCIL OF SOUTH AFRICA (ECSA):

Students should be trained in the application of engineering principles and methods within their branches of engineering, or combination of branches. They should be given progressively more responsibility until they are capable of accepting professional responsibility in making and executing engineering decisions at the level appropriate to their respective categories.

Furthermore, trainees should become aware of the interaction between related branches of engineering and the other team members, related to their own tasks. They should develop the ability to apply an holistic approach to the execution of their tasks in utilizing all resources at their disposal.

* **A Professional Technologist (Engineering) [Abbreviated as Pr Tech (Eng)]**

The application will only be successful if the person has undergone a full period of **three years** post-degree learning, which meets the following requirements acceptable to ENGINEERING COUNCIL OF SOUTH AFRICA (ECSA):

- (i) The work must essentially be pre-eminently intellectual, of sufficient variety and not of a routine nature.
- ii) Trainees must be able to:
 - Execute tasks on time and correctly, against the background of acquired knowledge and standard procedures and techniques;
 - Show that a good balance was maintained between the development of innovative concepts or creative ability and the use of standard procedures that simplify their task;
 - Maintain a balance between the technical effectiveness of a solution and acceptable costs, within the available time span;
 - Take effective decisions where the technical tools (knowledge, skills and aids) at their disposal are not sufficient to provide obvious solutions;

- Continuously consider the impact of their decisions on social, safety and environmental aspects, while still taking into account all relevant legislation.

(iii) Trainees must keep themselves informed of new technological developments.

6.5.2 IMPORTANCE OF PROFESSIONAL REGISTRATION

Registration is a statutory requirement if:

- * Consulting engineering work is performed;
- * Responsibility for the performance of engineering work is taken;
- * Functions are performed in accordance with laid down national regulations applicable to particular engineering fields.

6.5.3 ADVANTAGES OF PROFESSIONAL REGISTRATION

It is beneficial for the following reasons:

- * Recognition in the eyes of the public that the technician/technologist belongs to a profession with high ideals of self-regulation - the registered title behind their names means a lot.
- * Greater trust by the private and public sectors because they are aware that professionals are bound by legal requirements and an ethical code of conduct.
- * When seeking job opportunities, applicants are in a better negotiating position.

6.5.4 INFORMATION

Students/employers can obtain detailed information on registration procedures/learning requirements by mailing their requests to the Council as follows:

**Engineering Council of SA
P O Box 691
BRUMA
2026**

OR

**Engineering Council of SA
First Floor
Waterview Corner West
2 Ernest Oppenheimer Avenue
Bruma Lake Office Park
BRUMA
JOHANNESBURG
2198**

Or go to <http://www.ecsa.co.za>

7.

CONCLUSION

As a mentor the employer fulfils a very important and much appreciated role in the education of engineering students. The faculty of Engineering & Technology hopes that employers will gain just as much satisfaction from doing this as the students do. Employers are requested to call the University for assistance or to comment on the contents of this guide and let them know of anything that may be of importance and to the advantage of students. The employers and students are stakeholders in the co-operative education business and positive contributions are always welcome to facilitate continuous improvement.

ABC CIVILS (Pty) Ltd



01 January 2016

To: Vaal University of Technology
Co-operative Education Department
Private Bag X021
Vanderbijlpark
1900

RE: NO BODY: STUDENT NO. 9102550 – WORK INTEGRATED LEARNING

We hereby confirm that Mr. NO Body has completed his one year applicable Work Integrated Learning as required for the issuing of the National Diploma: Engineering: Civil, successfully. He has excelled himself by working with diligence on site.

We recommend that his diploma be awarded, subject to fulfilling the academic requirements.

We hold ourselves available for any queries.

Yours faithfully

RJ BAXTER Pr. Eng.
SITE ENGINEER

EXAMPLE

16 Industry Avenue, Bakerville, NEW VALLEY, 1994 *Tel.: 613-6430 *Fax.: 613-6434

ID COPY:



Important!!!

Closing dates for Diploma Applications:

Autumn ceremony: 31 January

Spring ceremony: 31 July

These dates are valid for each year. All diploma applications must reach us by these dates. Late applications will go through for the next ceremony.

Make sure your diploma application consists of the following:

- Official letter from employer (original)
 - ID copy
 - Application forms