

Ethics and Professional Conduct for Engineering Technicians



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Introduction

Who is a Technician?

An Engineering Technician is primarily trained in the skills and techniques related to a specific branch of engineering, with a practical understanding of the relevant engineering concepts.

- Engineering technicians often assist engineers and technologists in projects relating to research and development.
- Focus on post-development activities like implementation or operation
- An engineering technician is between a skilled craft worker and a technologist.



Scope

Engineering technicians help solve technical problems in many ways;

- They build or set up equipment, conduct experiments, and collect data and calculate results
- Make a model of new equipment
- Work in quality control, where they check products, do tests, and collect data
- In manufacturing, they help to design and develop products
- They may also be people who produce technical drawings or engineering drawings.



Desirable Attributes of an Engineering Technician

(American Society for Engineering Education: Engineering Education for a Changing World)

- 1 Good Communication Skills
- 2 Higher ethical standards
- 3 Ability to think critically and creatively; independently and cooperatively
- 4 Flexibility
- 5 Grasp of Engineering Science fundamentals (math, statistics, physics and life sciences, information technologies)
- 6 Basic understanding of design, manufacturing and O& M processes
- 7 Basic understanding of the context in which engineering is practiced (economics, history, environment, customer and societal needs)
- 8 Possess a multi-disciplinary, system perspective

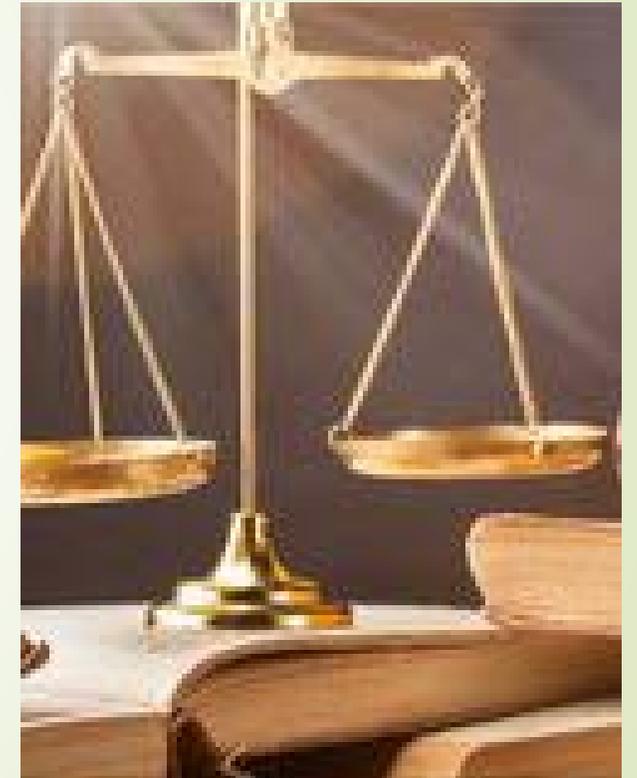
Legal frame work/Legislation

In Tanzania, the Term Engineering Technician is legislated.

- NECTA, TCU
- ERB ACT, 15 1997 and ACT, 24 of 2007
- Regulations and By-Laws
- Code of Ethics and Conduct
- Engineering Technician Rule GN No. 69 of March, 2014

Globally: Dublin Accord of May, 2002

- The Dublin Accord is an agreement for the international recognition of *Engineering Technician* qualifications.



What is Profession(nalism)?

1. Knowledge = requires formal education, judgment and discretion that are not routine and cannot be mechanized; **continuing education required**
2. Organization = sets standards for admission to profession, **enforces standards of conduct, establishes and follows codes of ethics**
3. Public Good = purpose of service and preservation of **public welfare**

Def.. Continue.....

- Profession is a commitment to a designated and organized occupation by virtue of being an authority over a body of knowledge with requisite skills acquired through specialized training
- Professional ethics, as opposed to personal values and morality, is a set of ethical standards and values a practicing technician is required to follow
- It sets the standards for professional practice, and is only learned in a professional school or while practicing ones own profession



Professional Codes of Ethics

- A code of ethics prescribes how professionals are to pursue their common ideal so that each may do the best at a minimal cost to oneself and those they care about
- A professional has obligations to the employer, to customers, to other professionals- colleagues with specific expectations of reciprocity
- An individual in his professional capacity has responsibility for the regular tasks he is assigned, for the outcomes of the actions and decisions
- A professional is answerable and liable for his/her actions
- He should have the capacity and moral strength to defend his actions/decisions



Common (Canon) Rules for Ethical Code of Conduct for Engineers and Technicians

1. Hold paramount the safety, health, and welfare of the public.
2. Perform services only in areas of their competence.
3. Issue public statements only in an objective and truthful manner.
4. Act for each employer or client as faithful agents or trustees.
5. Avoid deceptive acts.
6. Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.



Professional obligations

1. Technician shall be guided in all their relations by the highest standards of honesty and integrity.

- a) Technician shall acknowledge their errors and shall not distort or alter the facts.
- b) Technician shall advise their clients or employers when they believe a project will not be successful.
- c) Technician shall not accept outside employment to the detriment of their regular work or interest before accepting any outside engineering employment, they will notify their employers.
- d) Technician shall not promote their own interest at the expense of the dignity and integrity of the profession.



professional obligation.....cont..

2. Technician shall at all times strive to serve the public interest.

a) Technician are encouraged to participate in civic affairs; career guidance for youths; and work for the advancement of the safety, health, and well-being of their community.

b) Technician shall not complete, sign, or seal plans and/or specifications that are not in conformity with applicable engineering standards. If the client or employer insists on such unprofessional conduct, they shall notify the proper authorities and withdraw from further service on the project.

c) Technician are encouraged to extend public knowledge and appreciation of engineering and its achievements.

d) Technician are encouraged to adhere to the principles of sustainable development in order to protect the environment for future generations.



professional obligation.....cont..

3. Technician shall avoid all conduct or practice that deceives the public.

a) Technician shall avoid the use of statements containing a material misrepresentation of fact or omitting a material fact.

b) Consistent with the foregoing, technician may advertise for recruitment of personnel.

c) Consistent with the foregoing, technicians may prepare articles for the lay or technical press, but such articles shall not imply credit to the author for work performed by others.



professional obligation.....cont..

4. Technicians shall not disclose, without consent, confidential information concerning the business

a) Technician shall not, without the consent of all interested parties, promote or arrange for new employment or practice in connection with a specific project for which the technician has gained particular and specialized knowledge.

b) Technician shall not, without the consent of all interested parties, participate in or represent an adversary interest in connection with a specific project or proceeding in which the technician has gained particular specialized knowledge on behalf of a former client or employer.



professional obligation.....cont..

5. Technicians shall not be influenced in their professional duties by conflicting interests.

- a) Technician shall not accept financial or other considerations, including free engineering designs, from material or equipment suppliers for specifying their product.
- b) Technician shall not accept commissions or allowances, directly or indirectly, from contractors or other parties dealing with clients or employers of the technician in connection with work for which the technician is responsible.

professional obligation.....cont..

6. Technician shall not attempt to obtain employment or advancement or professional engagements by untruthfully criticizing other technicians, or by other improper or questionable methods.
 - a) Technician shall not request, propose, or accept a commission on a contingent basis under circumstances in which their judgment may be compromised.
 - b) Technicians in salaried positions shall accept part-time engineering work only to the extent consistent with policies of the employer and in accordance with ethical considerations.
 - c) Technicians shall not, without consent, use equipment, supplies, laboratory, or office facilities of an employer to carry on outside private practice.



professional obligation.....cont..

8. Technicians shall accept personal responsibility for their professional activities, provided, however, that they may seek indemnification for services arising out of their practice for other than gross negligence, where the professional's interests cannot otherwise be protected.

9. Technicians shall give credit for engineering work to those to whom credit is due, and will recognize the proprietary interests of others.



Conclusion

- "Sustainable development" is the challenge of meeting human needs for natural resources, industrial products, energy, food, transportation, shelter, and effective waste management while conserving and protecting environmental quality and the natural resource base essential for future development.
- Un ethical behavior including condoning corrupt practice should be a sin and avoided at all cost.
- Technicians have a huge and critical role to play in helping our Country attain Industrial based Economy.
- There will be no sustained Industrial and middle income Economic status without ethical professional input of technicians and craftsmen and women



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