UNIVERSITI TUN HUSSEIN ONN MALAYSIA

PEPERIKSAAN AKHIR
SEMESTER I
SESI 2009/2010

NAMA MATA PELAJARAN : PENGURUSAN DAN ETIKA PROFESIONAL

KOD MATA PELAJARAN : BDA 4042

KURSUS : BDP

TARIKH PEPERIKSAAN : NOVEMBER 2009

JANGKA MASA : 2 1/2 JAM

ARAHAN: 1) JAWAB **SOALAN 1** dan **DUA (2)** SOALAN YANG SELAINNYA.

2) INI ADALAH PEPERIKSAAN " OPEN-BOOK". HANYA BUKU TEKS SAHAJA DIBENARKAN DIBAWA MASUK KEDALAM DEWAN PEPERIKSAAN. NOTA-NOTA KULIAH TIDAK DIBENARKAN.

KERTAS SOALAN INI MENGANDUNGI ENAM (6) MUKA SURAT BERCETAK TERMASUK LAMPIRAN.

S1 (a) Apakah yang dimaksudkan dengan profesion dan profesionalisme?
What is meant by profession and professionalism?.

(6 Marks)

(b) Mengapa para profesional perlu kepada satu kod etika profesional atau *codes of ethics*?
Why do professionals need a code of professional ethics or codes of practice?

(15 Marks)

(c) Baca Kajian Kes berikut dan jawab soalan-soalan berikutnya:
Read the Case Study and answer the questions that follow:

Kajian Kes (Case Study)

I) Professor Nelson Nice is in the engineering faculty at a State University. Three years ago he headed a research project that involved Jason Smart, an undergraduate student assistant. At first Jason Smart was enthusiastic about the project, and he certainly felt honoured that Professor Nice selected him as his undergraduate assistant. However, as time passed Jason grew impatient with the laboratory work and write-ups. Prof Nelson Nice found that he had to do more and more of work himself. Eventually Jason Smart left the project – before the work was completed.

II) One year later Jason, then a graduate student at another university, wrote to Prof Nelson Nice and asked him if he would send him a copy of the final report of the work they had done together. Jason explained that he had matured considerably since his undergraduate days and now working in a related area. "Now," he said, "I think I'm ready for more serious work. It would help me a lot if I could see how things finally worked out in the project".

III) Professor Nelson Nice was not anxious to share the report with anyone. Disappointed with the results of the research, Nelson had turned his attention elsewhere. As far as he was concerned, the project was dead. He also had to admit that he was still unhappy with Jason's performance and attitude. Nevertheless, he was impressed with Jason's acknowledgement of his earlier immaturity and his apparent desire to do serious work. So Prof Nelson sent the report, pointing out to Jason that, although the research was now completed, it had not turned out as he had hoped, and that he had no plan to do further work in the area. He wished Jason well in his graduate work and hoped that this report might be of some help in giving him new ideas.

IV) Several years later Prof Nelson Nice discovered that Jason Smart used the report as his master's thesis – adding only a couple of introductory paragraphs, a concluding section, and an updated bibliography. No reference to Prof Nelson Nice appeared anywhere in the thesis!

Dengan merujuk (bila perlu), *Code of Ethics for Engineers, National Society of Professional Engineers (NSPE)* yang diisertakan pada **Lampiran A**, jawab saolan-soalan berikut.
Answer the following questions by making reference to the Code of Ethics for Engineers, National Society of Professional Engineers (NSPE) as provided in **Appendix *A***.

(i) Sediakan analisis fakta dan apakah isu-isu moral/etika yang dapat dipelajari?
Prepare a facts analysis and what moral/ethical issues can be learned?
(5 Marks)

(ii) Patutkah Prof Nelson Nice memberikan laporan penyelidikan kepada Jason Smart? Bincangkan.
Should Prof Nelson Nice send the report to Jason Smart? Briefly discuss.
(6 Marks)

(iii) Adakah tindakan Jason Smart menggunakan isi kandungan laporan yang diberikan oleh Prof Nelson Nice sebagai Tesis Sarjananya beretika? Bincangkan.
Is Jason Smart action of claiming the contents of the report given by Prof Nelson Nice as his master's thesis ethical? Discuss briefly.
(4 Marks)

(iii) Apakah tindakan yang perlu dilakukan oleh Prof Nelson Nice terhadap tingkah-laku Jason Smart yang terkini tersebut?
What action should Prof Nelson Nice take on knowing the latter conduct of Jason Smart?
(4 Marks)

S2 (a) Berikan satu definasi pengurusan.
Give a common difination of management
(2 Marks)

(b) Apakah yang dimaksudkan dengan kejuruteraan pengurusan?
What is engineering management?
(3 Marks)

(c) Apakah pengurusan projek?
What is project management?
(3 Marks)

(d) Terangkan dengan ringkas tiga fasa yang terdapat pada sesuatu pengurusan projek.
Briefly described the three phases that are involved in the management of a project.
(12 Marks)

(e) Terangkan dua peralatan yang sering digunakan dalam pengurusan projek.
Describe two tools widely used in project management.
(8 Marks)

(f) Apakah manfaat yang diperolehi dengan melaksanakan pengurusan projek?
What are the benefits to be gained from implementing project management?

(2 Marks)

S3 (a) Takrifkan teknologi.
Define technology.

(2 Marks)

(b) Senarai dan huraikan lima jenis atau kelasifikasi teknologi.
List and explain the five types or classifications of technology.

(15 Marks)

(c) Apakah yang dimaksudkan dengan pemindahan teknologi?
What is meant by technology transfer?

(3 Marks)

(d) Bincangkan tiga cara pemindahan teknologi boleh berlaku?
Discuss three ways by which technology transfer take place?

(10 Marks)

Q4 (a) Berikan satu definasi globalisasi.
Define globalization.

(5 Marks)

(b) Bincangkan beberapa kesan globalisasi terhadap masyarakat.
Discuss some of the effects of globalization on society?

(15 Marks)

(c) Pada pendapat anda, kurikulum Program Sarjana Muda Kejuteraan Mekanikal FKMP, UTHM boleh melahirkan para graduan/jurutera yang mampu bersaing di era globalisasi ini? Sila bincangkan.
In your opinion, the Bachelor in Mechnanical Engineering curricullum at FKMP, UTHM could produce graduates/engineers who are able to compete in this era of globalization? Please discuss.

(10 Marks)

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LAMPIRAN A

Code of Ethics for Engineers

Preamble

Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

I. Fundamental Canons

Engineers, in the fulfillment of their professional duties, shall:

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.

II. Rules of Practice

1. Engineers shall hold paramount the safety, health, and welfare of the public.
   a. If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employer or client and such other authority as may be appropriate.
   b. Engineers shall approve only those engineering documents that are in conformity with applicable standards.
   c. Engineers shall not reveal facts, data, or information without the prior consent of the client or employer except as authorized or required by law or this Code.
   d. Engineers shall not permit the use of their name or associate in business ventures with any person or firm that they believe is engaged in fraudulent or dishonest enterprise.
   e. Engineers shall not aid or abet the unlawful practice of engineering by a person or firm.
   f. Engineers having knowledge of any alleged violation of this Code shall report thereon to appropriate professional bodies and, when relevant, also to public authorities, and cooperate with the proper authorities in furnishing such information or assistance as may be required.
2. Engineers shall perform services only in the areas of their competence.
   a. Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.
   b. Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which they lack competence, nor to any plan or document not prepared under their direction and control.
   c. Engineers may accept assignments and assume responsibility for coordination of an entire project and sign and seal the engineering documents for the entire project, provided that each technical segment is signed and sealed only by the qualified engineers who prepared the segment.
3. Engineers shall issue public statements only in an objective and truthful manner.
   a. Engineers shall be objective and truthful in professional reports, statements, or testimony. They shall include all relevant and pertinent information in such reports, statements, or testimony, which should bear the date indicating when it was current.
   b. Engineers may express publicly technical opinions that are founded upon knowledge of the facts and competence in the subject matter.
   c. Engineers shall issue no statements, criticisms, or arguments on technical matters that are inspired or paid for by interested parties, unless they have prefaced their comments by explicitly identifying the interested parties on whose behalf they are speaking, and by revealing the existence of any interest the engineers may have in the matters.
4. Engineers shall act for each employer or client as faithful agents or trustees.
   a. Engineers shall disclose all known or potential conflicts of interest that could influence or appear to influence their judgment or the quality of their services.
   b. Engineers shall not accept compensation, financial or otherwise, from more than one party for services on the same project, or for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to by all interested parties.
   c. Engineers shall not solicit or accept financial or other valuable consideration, directly or indirectly, from outside agents in connection with the work for which they are responsible.
   d. Engineers in public service as members, advisors, or employees of a governmental or quasi-governmental body or department shall not participate in decisions with respect to services solicited or provided by them or their organizations in private or public engineering practice.
   e. Engineers shall not solicit or accept a contract from a governmental body on which a principal or officer of their organization serves as a member.
5. Engineers shall avoid deceptive acts.
   a. Engineers shall not falsify their qualifications or permit misrepresentation of their or their associates' qualifications. They shall not misrepresent or exaggerate their responsibility in or for the subject matter of prior assignments. Brochures or other presentations incident to the solicitation of employment shall not misrepresent pertinent facts concerning employers, employees, associates, joint venturers, or past accomplishments.
   b. Engineers shall not offer, give, solicit, or receive, either directly or indirectly, any contribution to influence the award of a contract by public authority, or which may be reasonably construed by the public as having the effect or intent of influencing the awarding of a contract. They shall not offer any gift or other valuable consideration in order to secure work. They shall not pay a commission, percentage, or brokerage fee in order to secure work, except to a bona fide employee or bona fide established commercial or marketing agencies retained by them.

III. Professional Obligations

1. Engineers shall be guided in all their relations by the highest standards of honesty and integrity.
   a. Engineers shall acknowledge their errors and shall not distort or alter the facts.
   b. Engineers shall advise their clients or employers when they believe a project will not be successful.
   c. Engineers 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. Engineers shall not attempt to attract an engineer from another employer by false or misleading pretenses.
   e. Engineers shall not promote their own interest at the expense of the dignity and integrity of the profession.
2. Engineers shall at all times strive to serve the public interest.
   a. Engineers 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. Engineers 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. Engineers are encouraged to extend public knowledge and appreciation of engineering and its achievements.
   d. Engineers are encouraged to adhere to the principles of sustainable development[1] in order to protect the environment for future generations.

3. Engineers shall avoid all conduct or practice that deceives the public.
   a. Engineers shall avoid the use of statements containing a material misrepresentation of fact or omitting a material fact.
   b. Consistent with the foregoing, engineers may advertise for recruitment of personnel.
   c. Consistent with the foregoing, engineers may prepare articles for the lay or technical press, but such articles shall not imply credit to the author for work performed by others.
4. Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve.
   a. Engineers 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 engineer has gained particular and specialized knowledge.
   b. Engineers 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 engineer has gained particular specialized knowledge on behalf of a former client or employer.
5. Engineers shall not be influenced in their professional duties by conflicting interests.
   a. Engineers shall not accept financial or other considerations, including free engineering designs, from material or equipment suppliers for specifying their product.
   b. Engineers shall not accept commissions or allowances, directly or indirectly, from contractors or other parties dealing with clients or employers of the engineer in connection with work for which the engineer is responsible.
6. Engineers shall not attempt to obtain employment or advancement or professional engagements by untruthfully criticizing other engineers, or by other improper or questionable methods.
   a. Engineers shall not request, propose, or accept a commission on a contingent basis under circumstances in which their judgment may be compromised.
   b. Engineers 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. Engineers shall not, without consent, use equipment, supplies, laboratory, or office facilities of an employer to carry on outside private practice.
7. Engineers shall not attempt to injure, maliciously or falsely, directly or indirectly, the professional reputation, prospects, practice, or employment of other engineers. Engineers who believe others are guilty of unethical or illegal practice shall present such information to the proper authority for action.
   a. Engineers in private practice shall not review the work of another engineer for the same client, except with the knowledge of such engineer, or unless the connection of such engineer with the work has been terminated.
   b. Engineers in governmental, industrial, or educational employ are entitled to review and evaluate the work of other engineers when so required by their employment duties.
   c. Engineers in sales or industrial employ are entitled to make engineering comparisons of represented products with products of other suppliers.
8. Engineers shall accept personal responsibility for their professional activities, provided, however, that engineers may seek indemnification for services arising out of their practice for other than gross negligence, where the engineer's interests cannot otherwise be protected.
   a. Engineers shall conform with state registration laws in the practice of engineering.
   b. Engineers shall not use association with a nonengineer, a corporation, or partnership as a "cloak" for unethical acts.
9. Engineers shall give credit for engineering work to those to whom credit is due, and will recognize the proprietary interests of others.
   a. Engineers shall, whenever possible, name the person or persons who may be individually responsible for designs, inventions, writings, or other accomplishments.
   b. Engineers using designs supplied by a client recognize that the designs remain the property of the client and may not be duplicated by the engineer for others without express permission.
   c. Engineers, before undertaking work for others in connection with which the engineer may make improvements, plans, designs, inventions, or other records that may justify copyrights or patents, should enter into a positive agreement regarding ownership.
   d. Engineers' designs, data, records, and notes referring exclusively to an employer's work are the employer's property. The employer should indemnify the engineer for use of the information for any purpose other than the original purpose.
   e. Engineers shall continue their professional development throughout their careers and should keep current in their specialty fields by engaging in professional practice, participating in continuing education courses, reading in the technical literature, and attending professional meetings and seminars.

Footnote 1 "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.

As Revised July 2007

"By order of the United States District Court for the District of Columbia, former Section 11(c) of the NSPE Code of Ethics prohibiting competitive bidding, and all policy statements, opinions, rulings or other guidelines interpreting its scope, have been rescinded as unlawfully interfering with the legal right of engineers, protected under the antitrust laws, to provide price information to prospective clients; accordingly, nothing contained in the NSPE Code of Ethics, policy statements, opinions, rulings or other guidelines prohibits the submission of price quotations or competitive bids for engineering services at any time or in any amount."

Statement by NSPE Executive Committee

In order to correct misunderstandings which have been indicated in some instances since the issuance of the Supreme Court decision and the entry of the Final Judgment, it is noted that in its decision of April 25, 1978, the Supreme Court of the United States declared: "The Sherman Act does not require competitive bidding."

It is further noted that as made clear in the Supreme Court decision:
1. Engineers and firms may individually refuse to bid for engineering services.
2. Clients are not required to seek bids for engineering services.
3. Federal, state, and local laws governing procedures to procure engineering services are not affected, and remain in full force and effect.
4. State societies and local chapters are free to actively and aggressively seek legislation for professional selection and negotiation procedures by public agencies.
5. State registration board rules of professional conduct, including rules prohibiting competitive bidding for engineering services, are not affected and remain in full force and effect. State registration boards with authority to adopt rules of professional conduct may adopt rules governing procedures to obtain engineering services.
6. As noted by the Supreme Court, "nothing in the judgment prevents NSPE and its members from attempting to influence governmental action . . ."

Note: In regard to the question of application of the Code to corporations vis-a-vis real persons, business form or type should not negate nor influence conformance of individuals to the Code. The Code deals with professional services, which services must be performed by real persons. Real persons in turn establish and implement policies within business structures. The Code is clearly written to apply to the Engineer, and it is incumbent on members of NSPE to endeavor to live up to its provisions. This applies to all pertinent sections of the Code.

National Society of Professional Engineers®

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