APPENDICES

STUDENTS' QUESTIONNAIRE   Appendix A

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QUESTIONNAIRE FOR ENGINEERING STUDENTS

This study is part of my doctoral studies in computer integrated education (CIE). This questionnaire seeks to document on-line engineering education trends in developing countries – especially African– and enable as to predict the future of on-line engineering education there and the rest of the world. I ask for your help to achieve this purpose.

This study's findings will hopefully assist African policy-makers to make judgments to improve the situation of engineering education with regard to use of on-line technologies in teaching and learning. The intention is to inform policy-makers and indicate resource allocation in engineering educational technology development in South Africa.

It is vital all your answers are accurately and honestly.
Your answers to this questionnaire will not be disseminated further. While the result of these study presumptions will be published, I vouch for the higher level of confidentiality and privacy about all information given, including your names, faculties and personnel.

Please complete all questions. For questions or comments about this questionnaire, or if you require information about the study, please feel free to contact or e-mail me at:
Cell: 072-596-2034
e-mail: 210230363@cput.ac.za or mohannad_taha@hotmail.com

Thank you all for being willing to complete this questionnaire. I look forward to publishing and sharing the anonymous outcomes of this study with our African community.

Please understand that participating in this survey is voluntary and any one may withdraw at any time.

Mohannad Taha
Researcher

STUDENTS' QUESTIONNAIRE

Appendix A

SECTION (1): GENERAL INFORMATION

❖ Please answer the questions by putting (✓) in a relevant square (❏) or by writing your answer in a space provided.

1. Gender

Male	❏
Female	❏

2. Age range

Under 20	20-25	26-30	31-35	Over 35
❏	❏	❏	❏	❏

3. The current level of study

NO	Degree	Year				
		1st	2nd	3rd	4th	5th
1	3/year diploma	❏	❏	❏	❏	❏
2	Bachelor	❏	❏	❏	❏	❏
3	High diploma	❏	❏	❏	❏	❏
4	Masters	❏	❏	❏	❏	❏
5	PhD	❏	❏	❏	❏	❏
6	Post PhD	❏	❏	❏	❏	❏
7	Other ❏ please specify:					

4. Specialisation

Mechanical	Electrical	Civil
❏	❏	❏
Other ❏ please specify:		

5. Nationality

6. Home language

STUDENTS' QUESTIONNAIRE   Appendix A

7. University

University of Cape Town (UCT)	❑
Cape Peninsula University of Technology (CPUT)	❑
Nelson Mandela Metropolitan University (NMMU)	❑
University of South Africa (Unisa)	❑

8. Are you a part-time or a full-time student?

part-time	❑
full-time	❑

SECTION (2): ACCESS TO ICTs AND THE INTERNET
   ❖ Please answer the questions by putting (✓) in a relevant square (❑) or by writing your answer in a space provided.

9. On average, how often do you enter the campus during the semester?

Never	Monthly	Weekly	Daily
❑	❑	❑	❑

10. Where do you use the Internet on campus? (you may indicate **MORE THAN ONE** answer)

Office	Computer laboratory	Library
❑	❑	❑
Other ❑ please specify:		

11. Which one of the following devices do you have? Is it connected to the Internet?

	Desktop PC		Laptop		Cellphone		Personal digital assistant (PDA)	
Availability	❑		❑		❑		❑	
Internet connectivity	Yes	No	Yes	No	Yes	No	Yes	No
	❑	❑	❑	❑	❑	❑	❑	❑
Other ❑ please specify:								

12. How often do you use the above devices for academic purposes?

	All the time	Most of the time	Some of the time	Seldom	Never
Desktop PC	❑	❑	❑	❑	❑
Laptop	❑	❑	❑	❑	❑
Cellphone	❑	❑	❑	❑	❑
Personal digital assistant (PDA)	❑	❑	❑	❑	❑

13. Could you estimate how many hours daily you spend on the Internet?

1-3	4-5	6-8	9-10	11-15
❑	❑	❑	❑	❑

14. Where do you access the Internet? (you may indicate **MORE THAN ONE** answer)

On-campus	At home	Internet café	On my cellphone
❑	❑	❑	❑
Other ❑ please specify:			

15. How easy/difficult is it for you to access the Internet on campus?

Very difficult	Difficult	Easy	Very easy
❑	❑	❑	❑

16. How easy/difficult is it for you to access the Internet at home?

Very difficult	Difficult	Easy	Very easy
❑	❑	❑	❑

17. Do you take any instructions on-line?

Yes	NO
❑	❑

18. Where do you access the on-line instructions? (you may indicate **MORE THAN ONE** answer)

On-campus	At home	Internet café	On my cellphone
❏	❏	❏	❏
Other ❏ please specify:			

19. How often do you study on-line?

All of the time	Most of the time	Some of the time	Seldom	Never
❏	❏	❏	❏	❏

20. How do you acquire new computer skills when you need them? (select the most important **TWO** methods)

1	Teach myself	❏
2	Ask a colleague or friend	❏
3	Formal courses	❏
4	Training courses at my university	❏
5	Other ❏ please specify:	

21. How often do you use the Internet for the following activities?

NO	Activities	All the time	Most of the time	Some of the time	Seldom	Never
1	Write test/examination	❏	❏	❏	❏	❏
2	Asking for help from your lecturer	❏	❏	❏	❏	❏
3	Communicate with a colleague for academic activities.	❏	❏	❏	❏	❏
4	Seek academic information using search engines.	❏	❏	❏	❏	❏
5	To submit your homework and tasks.	❏	❏	❏	❏	❏
6	Solve problems and understand some aspects in your area.	❏	❏	❏	❏	❏

STUDENTS' QUESTIONNAIRE   Appendix A

SECTION (3): QUESTIONNAIRE'S STATEMENTS

❖ Please read the statements carefully and select **ONLY ONE** answer that represents your opinion by putting (✓) in a relevant square (❑).

No	STATEMENTS	SCALE				
		1 **Strongly agree**	**2** **Agree**	**3** **Neutral or undecided**	**4** **Disagree**	**5** **Strongly disagree**
22.	All the time I need face-to-face contact with my lecturers.	❑	❑	❑	❑	❑
23.	Technologies that I require are easy to use.	❑	❑	❑	❑	❑
24.	It is easy for me to use on-line materials developed by other institutions and universities.	❑	❑	❑	❑	❑
25.	My university provides any needed support to improve on-line learning.	❑	❑	❑	❑	❑
26.	All needed software for my learning is available through my faculty.	❑	❑	❑	❑	❑
27.	Most on-line courses are engaging and interactive.	❑	❑	❑	❑	❑
28.	My lecturers often use Internet and on-line technologies for my courses.	❑	❑	❑	❑	❑
29.	Usually I interact with the on-line courses and I find it interesting and useful.	❑	❑	❑	❑	❑
30.	On-line communications assist me to contact my colleagues in order to solve some academic problem when we cannot meet on campus.	❑	❑	❑	❑	❑
31.	On-line experiences can be shown to be as good as (or better than) traditional learning methods.	❑	❑	❑	❑	❑
32.	I think the Internet is essential for my learning.	❑	❑	❑	❑	❑
33.	On-line methods develop my ability to design and create a new engineering system based on social needs.	❑	❑	❑	❑	❑

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No	STATEMENTS	SCALE				
		1 Strongly agree	**2** Agree	**3** Neutral or undecided	**4** Disagree	**5** Strongly disagree
34.	Studying on-line is difficult and complicated.	❏	❏	❏	❏	❏
35.	Internet and on-line technologies are helpful for my learning.	❏	❏	❏	❏	❏
36.	The on-line courses and web-based materials match my academic needs.	❏	❏	❏	❏	❏
37.	On-line contents are updated and well designed.	❏	❏	❏	❏	❏
38.	I feel my academic performance is better after using on-line and WebCT facilities.	❏	❏	❏	❏	❏
39.	I think the Internet is a vital tool in my life.	❏	❏	❏	❏	❏
40.	The web and on-line technologies allow me to collaborate in group-based project work.	❏	❏	❏	❏	❏
41.	On-line methods and technologies provide me with a useful model of self lifelong learning.	❏	❏	❏	❏	❏
42.	On-line methods facilitate self-learning tasks to help me to be a participant rather than merely an onlooker.	❏	❏	❏	❏	❏
43.	The web supports collaboration and extended work within my group.	❏	❏	❏	❏	❏
44.	The Internet allows me to have contact with foreign students and experts in industrial fields.	❏	❏	❏	❏	❏
45.	It is easy to integrate on-line communications with any other communications' technologies, such as mobile phones.	❏	❏	❏	❏	❏

STUDENTS' QUESTIONNAIRE   Appendix A

No	STATEMENTS	SCALE				
		1 **Strongly agree**	**2** **Agree**	**3** **Neutral or undecided**	**4** **Disagree**	**5** **Strongly disagree**
46.	My faculty provides ongoing training in information and communication technologies.	❑	❑	❑	❑	❑
47.	Generally, I am interested in using web and Internet for my learning.	❑	❑	❑	❑	❑
48.	A blend of on-line and face-to-face teaching makes engineering courses active and enjoyable.	❑	❑	❑	❑	❑
49.	I am able to access the Internet sufficiently for learning requirements.	❑	❑	❑	❑	❑
50.	I have the necessary computer skills to manage my academic tasks and learning.	❑	❑	❑	❑	❑
51.	I do not have time to improve my on-line learning.	❑	❑	❑	❑	❑
52.	I would like to develop my skills in using web and Internet facilities.	❑	❑	❑	❑	❑
53.	I would like to design and present my tasks on-line.	❑	❑	❑	❑	❑
54.	On-line methods help me to improve my engineering design skills.	❑	❑	❑	❑	❑
55.	I feel I need advanced training in using the Internet and on-line features.	❑	❑	❑	❑	❑
56.	I have a good background about usage of on-line and WebCT features.	❑	❑	❑	❑	❑
57.	I use e-mail to communicate with other students.	❑	❑	❑	❑	❑
58.	It is difficult for me to complete laboratory activities on-line.	❑	❑	❑	❑	❑

No	STATEMENTS	SCALE				
		1	2	3	4	5
		Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree
59.	The ICTs* infrastructure in my university is not at the required quality level.	❑	❑	❑	❑	❑
60.	I use chat rooms to undertake academic discussions with my lecturers and colleagues.	❑	❑	❑	❑	❑
61.	The large number of students in my class makes me uncomfortable.	❑	❑	❑	❑	❑
62.	I would like more lecturers to use on-line methods of teaching and learning.	❑	❑	❑	❑	❑

* ICTs (Information and Communication Technologies) refers to computers, computer infrastructure and any associated technologies, including software, hardware, and Internet connectivity.

SECTION (4): OPEN-ENDED QUESTIONS
❖ Please write your answer in the spaces provided and summarise your answer where possible.

63. What do you like about ICTs and the Internet in your academic life?

_____
_____
_____
_____
_____

64. What are the difficulties facing you with on-line courses or tasks?

    1. _____
    2. _____
    3. _____
    4. _____
    5. _____

65. What are your suggestions for improvement?

    1. _____

    2. _____

    3. _____

    4. _____

    5. _____

SECTION (5): CONTACT DETAILS

❖ Please write your e-mail. This will be used confidentially, and only in case of incomplete information.

66. e-mail

STUDENTS' QUESTIONNAIRE

If you have any comments to share about this questionnaire or the study, please write them below:

The <u>END</u> of the questionnaire

Thank you for your co-operation

- **<u>PLEASE RETURN THE COMPLETED QUESTIONNAIRE TO THE FIELDWORKER VISITING YOUR FACULTY WHO HANDED THE QUESTIONNAIRE TO YOU.</u>**

LECTURERS' QUESTIONNAIRE   Appendix B

Department of Informatics
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QUESTIONNAIRE FOR ENGINEERING LECTURERS

This study is part of my doctoral studies in computer integrated education (CIE). This questionnaire seeks to document on-line engineering education trends in developing countries – especially African– and enable as to predict the future of on-line engineering education there and the rest of the world. I ask for your help to achieve this purpose.

This study's findings will hopefully assist African policy-makers to make judgments to improve the situation of engineering education with regard to use of on-line technologies in teaching and learning. The intention is to inform policy-makers and indicate resource allocation in engineering educational technology development in South Africa.

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Thank you all for being willing to complete this questionnaire. I look forward to publishing and sharing the anonymous outcomes of this study with our African community.

<u>Please understand that participating in this survey is voluntary and any one may withdraw at any time. Presumptions</u>

Mohannad Taha
Researcher

LECTURERS' QUESTIONNAIRE   Appendix B

SECTION (1): GENERAL INFORMATION
- ❖ Please answer the questions by putting (✓) in a relevant square (❏) or by writing your answer in a space provided.

67. Gender

Male	❏
Female	❏

68. Age range

20-25	26-30	31-35	36-40	Over 40
❏	❏	❏	❏	❏

69. The academic qualification

3/year diploma	Bachelor degree	High diploma	Masters degree	PhD	Post PhD
❏	❏	❏	❏	❏	❏

70. Specialisation

Mechanical	Electrical	Civil	Mathematics	Physics	Chemistry	Computer science
❏	❏	❏	❏	❏	❏	❏

Other ❏ please specify:

71. Occupation

Lab technician	Teaching assistant/ Tutor	Lecturer	Senior lecturer	Post PhD student	Associate professor	Professor	Head of department	Dean
❏	❏	❏	❏	❏	❏	❏	❏	❏

72. Years of experience

1-5	6-10	11-15	16-20	21-25	above 25
❏	❏	❏	❏	❏	❏

73. Nationality

74. Home language

75. University

University of Cape Town (UCT)	❏
Cape Peninsula University of Technology (CPUT)	❏
Nelson Mandela Metropolitan University (NMMU)	❏
University of South Africa (Unisa)	❏

76. Are you part-time or full-time lecturer?

part-time	❏
full-time	❏

77. How many courses maximum do you teach per semester?

78. What is the title of the main course you usually teach?

79. What is the nature of this course? (you may indicate **MORE THAN ONE** answer)

Theoretical	Practical	Mathematical-based subject
❏	❏	❏

SECTION (2): ACCESS TO ICTs AND THE INTERNET
- ❖ Please answer the questions by putting (✓) in a relevant square (❏) or by writing your answer in a space provided.

80. On average, how often do you go onto the campus during the semester?

Never	Monthly	Weekly	Daily
❏	❏	❏	❏

81. Where do you use the Internet on campus? (you may indicate **MORE THAN ONE** answer)

Office	Computer laboratory	Library
❑	❑	❑
Other ❑ please specify:		

82. Which one of the following devices do you have? Is it connected to the Internet?

	Desktop PC		Laptop		Cellphone		Personal digital assistant (PDA)	
Availability	❑		❑		❑		❑	
Internet connectivity	Yes ❑	No ❑	Yes ❑	No ❑	Yes ❑	No ❑	Yes ❑	No ❑
Other ❑ please specify:								

83. How often do you use the above devices for academic purposes?

	All the time	Most of the time	Some of the time	Seldom	Never
Desktop PC	❑	❑	❑	❑	❑
Laptop	❑	❑	❑	❑	❑
Cellphone	❑	❑	❑	❑	❑
Personal Digital Assistant (PDA)	❑	❑	❑	❑	❑

84. Could you estimate how many hours per day do you spend on the Internet?

1-3	4-5	6-8	9-10	11-15
❑	❑	❑	❑	❑

85. Where do you access the Internet? (you may indicate **MORE THAN ONE** answer)

On-campus	At home	Internet café	On my cellphone
❑	❑	❑	❑
Other ❑ please specify:			

86. How easy/difficult is it for you to access Internet on campus?

Very difficult	difficult	Easy	Very easy
❑	❑	❑	❑

87. How easy/difficult is it for you to access Internet at home?

Very difficult	difficult	Easy	Very easy
❏	❏	❏	❏

88. How often do you teach on-line?

All the time	Most of the time	Some of the time	Seldom	Never
❏	❏	❏	❏	❏

89. How do you acquire new computer skills when you need them? (select the most important **TWO** methods)

1	Teach myself	❏
2	Ask a colleague or friend	❏
3	Formal courses	❏
4	Training courses at my university	❏
5	Others ❏ please specify:	

90. How often do you use the Internet for the following activities?

NO	Activities	All the time	Most of the time	Some of the time	Seldom	Never
1	Direct Presentation	❏	❏	❏	❏	❏
2	Provide instructions	❏	❏	❏	❏	❏
3	Assess my students	❏	❏	❏	❏	❏
4	Directing and provide help to individual learners	❏	❏	❏	❏	❏
5	Organise communication between students	❏	❏	❏	❏	❏
6	Collaborate with designers to organise on-line courses	❏	❏	❏	❏	❏
7	Prepare my traditional lectures	❏	❏	❏	❏	❏

SECTION (3): QUESTIONNAIRE'S STATEMENTS
❖ Please read the statements carefully and select **ONLY ONE** answer that represents your opinion by putting (✓) in the relevant square (❑).

No	STATEMENTS	SCALE				
		1 Strongly agree	**2** Agree	**3** Neutral or undecided	**4** Disagree	**5** Strongly disagree
91.	On-line methods can replace face-to-face contact in engineering education.	❑	❑	❑	❑	❑
92.	During my teaching, I always have direct face-to-face contact with my students.	❑	❑	❑	❑	❑
93.	Technologies I use are reliable and easy to use.	❑	❑	❑	❑	❑
94.	On-line methods enable collaboration between institutions.	❑	❑	❑	❑	❑
95.	On-line collaboration between institutions increases the quality of teaching engineering science.	❑	❑	❑	❑	❑
96.	My university provides any needed support to improve on-line teaching.	❑	❑	❑	❑	❑
97.	All software required for teaching and learning are available in my faculty.	❑	❑	❑	❑	❑
98.	Network capabilities available permit creation of engaging interactive on-line courses.	❑	❑	❑	❑	❑
99.	On-line methods can be used for on-campus teaching in order to increase the rate of interaction and teaching quality.	❑	❑	❑	❑	❑
100	My students usually interact with on-line teaching, finding it interesting and useful.	❑	❑	❑	❑	❑
101	On-line methods help me to control and manage a large number of students.	❑	❑	❑	❑	❑
102	On-line experiences can be shown to be as good as traditional teaching methods.	❑	❑	❑	❑	❑
103	On-line experiences can be shown to be better than traditional teaching methods.	❑	❑	❑	❑	❑

LECTURERS' QUESTIONNAIRE   Appendix B

No	STATEMENTS	SCALE				
		1	**2**	**3**	**4**	**5**
		Strongly agree	**Agree**	**Neutral or undecided**	**Disagree**	**Strongly disagree**
104	Web-based teaching offers better opportunity for providing more individualized instruction.	❏	❏	❏	❏	❏
105	On-line methods can develop ability for engineering students to design and create a new systems based on social needs.	❏	❏	❏	❏	❏
106	Teaching and learning environments in on-line engineering education are difficult to run and to maintain.	❏	❏	❏	❏	❏
107	The usefulness of web-based learning depends on the quality of its instructional design.	❏	❏	❏	❏	❏
108	The on-line courses and web-based materials match the characteristics and the academic needs of my students.	❏	❏	❏	❏	❏
109	On-line contents are easy to update and reuse.	❏	❏	❏	❏	❏
110	The WWW* can help in terms of motivating and structuring collaboration when applying to group-based project methods of teaching.	❏	❏	❏	❏	❏
111	It is quality of interaction but not content determines if real learning takes place.	❏	❏	❏	❏	❏
112	Web and on-line technologies permit engineering students to collaborate in group-based project work.	❏	❏	❏	❏	❏
113	On-line methods and technologies can provide a useful model of self-lifelong learning for engineering students and practitioners.	❏	❏	❏	❏	❏

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No	STATEMENTS	SCALE				
		1	2	3	4	5
		Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree
114	On-line methods facilitate self-learning tasks that help students to be participants rather than merely onlookers.	❏	❏	❏	❏	❏
115	Web supports students' collaboration and extends working groups that involves foreign students and experts in industrial fields.	❏	❏	❏	❏	❏
116	Web technologies do not cater adequately assist for teaching all engineering experiences.	❏	❏	❏	❏	❏
117	It is easy to integrate on-line communications with other communications' technologies, such as mobile phones.	❏	❏	❏	❏	❏
118	I think the Internet is essential to my teaching.	❏	❏	❏	❏	❏
119	My faculty provides continuing education in information and communication technologies for academic staff.	❏	❏	❏	❏	❏
120	Generally, my students are interested in using the web and the Internet in their learning.	❏	❏	❏	❏	❏
121	A blend of on-line and face-to-face teaching is the best option for delivering engineering education.	❏	❏	❏	❏	❏
122	My students are more attentive when I use both on-line and face-to-face teaching.	❏	❏	❏	❏	❏
123	There are many useful on-line materials which suitable for use in teaching engineering.	❏	❏	❏	❏	❏
124	My learners have the necessary computer skills to manage academic tasks and learning.	❏	❏	❏	❏	❏
125	I do not have time to improve my on-line teaching.	❏	❏	❏	❏	❏

LECTURERS' QUESTIONNAIRE   Appendix B

No	STATEMENTS	SCALE				
		1 **Strongly agree**	**2** **Agree**	**3** **Neutral or undecided**	**4** **Disagree**	**5** **Strongly disagree**
126	I would like to develop my skills in using the web and Internet facilities.	❏	❏	❏	❏	❏
127	I would like to design and develop my own on-line courses.	❏	❏	❏	❏	❏
128	At my university there is an instructional designer who helps me design on-line courses.	❏	❏	❏	❏	❏
129	I feel I need advanced courses in using the Internet and on-line methods.	❏	❏	❏	❏	❏
130	I have a good background on on-line methods.	❏	❏	❏	❏	❏
131	I have collaborations with other universities to develop computer-based materials.	❏	❏	❏	❏	❏
132	Laboratories' activities cannot be delivered on-line.	❏	❏	❏	❏	❏
133	The ICTs** infrastructure at my university is not at the required level of quality.	❏	❏	❏	❏	❏
134	On-line methods can reduce the cost of teaching and learning.	❏	❏	❏	❏	❏
135	On-line methods can effectively enhance teaching outcomes in engineering education.	❏	❏	❏	❏	❏
136	The large numbers of students need well-trained staff in ICTs, rather than by increase the number of lecturers.	❏	❏	❏	❏	❏
137	I do not trust on-line methods in teaching engineering subjects.	❏	❏	❏	❏	❏
138	I use e-mail to communicate with students.	❏	❏	❏	❏	❏
139	Large numbers of students in my class are uncomfortable with on-line learning.	❏	❏	❏	❏	❏

*WWW (World Wide Web).

LECTURERS' QUESTIONNAIRE   Appendix B

**ICTs (Information and Communication Technologies) refers to computers, computer infrastructure and any associated technologies, including software, hardware, and Internet connectivity.

SECTION (4): OPEN-ENDED QUESTIONS
❖ Please write your answer in the spaces provided and summarise your answer where possible.

140.   What difficulties do you encounter when using ICTs and the Internet in your teaching?

    1. _____

    2. _____

    3. _____

    4. _____

    5. _____

141.   How do you feel about using ICTs and the Internet for teaching and learning?

_____

_____

_____

_____

142.   What are your expectations for on-line engineering education in the near future at your university?

_____

_____

_____

_____

_____

143.   What suggestions have you for improving on-line engineering education in your faculty?

    1. _____

    2. _____

    3. _____

    4. _____

    5. _____

144.   What support do you need in order to optimally utilize ICTs in engineering education?

_____

_____

_____
_____
_____

SECTION (5): CONTACT DETAILS
❖ Please write your e-mail. There will be used confidentially and only in case of incomplete information.

145.   **e-mail**

LECTURERS' QUESTIONNAIRE

If you have any comments to share about this questionnaire or the study, please write them below:

The <u>END</u> of the questionnaire

Thank you for your co-operation

- **<u>PLEASE RETURN THE COMPLETED QUESTIONNAIRE TO THE FIELDWORKER VISITING YOUR FACULTY WHO HANDED THE QUESTIONNAIRE TO YOU.</u>**

Interview Protocol project:

Time of interview:

Date:

Place:

Interviewer:

Interviewee:

      Name:

      Academic qualifications:

      Specialization:

      Years of Experience:

      Position:

<u>Brief description of the study:</u>

<u>Questions:</u>

1. How many students are there in your faculty/ department(s)?

2. Do these numbers increase annually?

3. How many lecturers are there in your faculty/ department(s)?

4. Does the ICTs infrastructure in both your faculty and department(s) meet students' needs?

5. How many computers' laboratories are reserved for on-line teaching and learning in your faculty?

6. Do your faculty/ department(s) deliver any engineering courses on-line? [if yeas, which courses are offered on-line? If no, why?]

7. How do you design and manage on-line courses?

8. Do on-line methods improve learners and lecturers performance and how?

9. What are the developmental plans at your university for on-line and web-based education are envisaged?

10. Does any plan include training courses for lecturers and students?

11. Do you/ did you plan to provide on-line laboratory activities?

12. Is there a specific annual budget for on-line education?

13. If you plan to implement on-line methodologies/ technologies, what are they?

14. What obstacles hamper on-line engineering education in your faculty?

15.   What do you recommend as a solution?

16.   What strategy do you use to encourage lecturers to integrate e-learning in their teaching?

17.   How do you deal with lecturers' needs in teaching?

18.   Do you collaborate/ share on-line materials with others (ex. Universities, companies…etc)?

19.   Do you think on-line methodologies encourage collaboration in teaching and learning?

20.   Do you see on-line collaboration improving teaching standards and how?

21.   Do you think using on-line or blended methods or both reduce engineering course costs and save money to your faculty?

22.   How do you support the blended format (on-line/ classroom) for engineering subjects?

23.   Do students prefer to learn and lecturers prefer to teach on-line in your faculty/ department(s)?

24.   Is there a dedicated department available to assist students and lecturers in e-learning in a daily basis?

25.   How often is e-learning unavailable because of system failure and what plans are envisaged to overcome this pressing problem?

26.   Any other comments?

Thank you

SAMPLE SIZE TABLE Appendix D

Sample Size for a Given Population Size. *Sekaran (2000).*

N	S	N	S	N	S
30	28	280	162	1500	306
40	36	290	165	1600	310
50	44	300	169	1700	313
60	52	320	175	1800	317
70	59	340	181	1900	320
80	66	360	186	2000	322
90	73	400	196	2200	327
95	76	420	201	2400	331
100	80	440	205	2600	335
110	86	460	210	2800	338
120	92	480	214	3000	341
130	97	500	217	3500	346
140	103	550	226	4500	354
150	108	600	234	5000	357
160	113	650	242	6000	361
170	118	700	248	7000	364
180	123	750	254	8000	367
190	127	800	260	9000	368
200	132	850	265	10000	370
210	136	900	269	15000	375
220	140	950	274	20000	377
230	144	1000	278	30000	379
240	148	1100	285	40000	380
250	152	1200	291	50000	381
260	155	1300	297	75000	382
270	159	1400	302	1000000	384

Faculty of Informatics and Design

Research Ethics Review Checklist

All post-graduate students and researchers are required to complete this form before commencing with the research. Post-graduate students are requested to please submit this form together with their proposal submission to the FRC.

*(Where applicable mark relevant boxes with an **X**)*

Project Title:
Trends in Online Teaching and Learning in Engineering Education

Applicant / Researcher:	Title, name & surname: Mr Mohannad Taha	Under-graduate		Post-graduate	X	Staff	
Office Telephone: 469 - 1142	Cell: 0725962034		e-Mail: mohannad_taha@hotmail.com				

Supervisor (if applicable):	Title, name & surname: Prof. Dr Johannes C. Cronje
Office Telephone: 469 - 1018	Cell: 082 558 5311	e-Mail: cronjej@cput.ac.za

Research Checklist:	Yes	No
1: Does the study involve participants who are unable to give informed consent? Examples include children, people with learning disabilities, or your own students.		X
2: Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited? Examples include students at school, members of self-help groups, residents of nursing homes — anyone who is under the legal care of another.		X
3: Will it be necessary for participants to take part in the study without their knowledge and consent at the time — for example covert observation of people in non-public places?		X
4: Will the study with the research subject involve discussion of sensitive topics? Examples would include questions on sexual activity or drug use.		X
5: Will the study involve invasive, intrusive, or potentially harmful procedures of any kind (e.g. drugs, placebos or other substances to be administered to the study participants)?		X
6: Will the study involve prolonged or repetitive testing on sentient subjects?		X

ETHICAL CLEARANCE DOCUMENT   Appendix E

7:	Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?		X
8:	Does your research involve environmental studies which could be contentious or will your outcome use materials or processes that could damage the environment more than is necessary?		X

If you have answered '*No*' to all questions, submit the completed and signed form to the FRC together with the research proposal.

*If you have answered '*Yes*'...*

If you have answered '*Yes*' to any question, kindly attach a report describing more fully how you plan to deal with the ethical issues raised by your research. It does not mean that you cannot do the research, only that your proposal will need to be approved by the Research Ethics Committee. You will need to submit your plans for addressing the ethical issues raised by your proposal to the FID Research Ethics Committee.

Declaration:

As Researcher / Applicant I acknowledge that it is my responsibility to:

- Follow the CPUT Code of Practice on Ethical Standards (which is currently being drafted) and any relevant academic or professional guidelines in the conduct of my study; and

- That this includes providing appropriate information sheets and consent forms; and ensuring confidentiality in the storage and use of data.

- Furthermore that any significant change in the questions, design, or conduct over the course of the research must be notified to my supervisor who must inform the Research Ethics Committee if new approval is needed.

By my signature below I declare that I am not aware of any potential conflicts of interest, other than those declared on THIS form, which may influence the ethical conduct of my study.

Signatures:

Researcher: Date: 14 March 2010		Supervisor: Date:14 March 2010

FID Research Ethics Committee:

ETHICAL CLEARANCE DOCUMENT   Appendix E

Approved	Referred back	Chairperson Dr. Corrie Uys	Date:16 March 2010

FIDethics@cput.ac.za

DATA COLLECTION APPLICATION LETTER   Appendix F

Department of Informatics
Faculty of Informatics and Design
Cape Peninsula University of Technology
Cell: +27 (0) 725962034
Fax: +27 (0) 21-469-1002
e-mail: Mohannad_taha@hotmail.com
Web: www.cput.co.za

21-04-2010
Dean of the Faculty: Engineering
Heads of Departments: Mechanical, Electrical, and Civil Engineering
University of ………………..

Dear Sir/Madam

APPLICATION FOR CONDUCTING RESEARCH IN THE FACULTY OF ENGINEERING AT UNIVERSITY OF ………………..

We would like to request for permission to conduct research and collecting data in the Departments of Mechanical, Electrical, and Civil Engineering in your faculty.
The questionnaires and interviews questions of the project have been attached with this letter.
Furthermore, we request your permission to conduct interviews with the dean and the heads of the departments and to distribute questionnaires among the lecturers and the students.

This study is part of PhD in Computer Integrated Education. The purpose of this study is to predict as to enable the future of online engineering education in the developing country in order to develop and improve the process of engineering education in our community.
We look forward to your acceptance and co-operation to make this study useful for all engineering lecturers, students, and professionals.

Thank you for your attention

Yours sincerely

Prof. Dr. Johannes Cronjé   Mr. Mohannad Taha
       The Supervisor   The Researcher

This letter based on J.W. Creswell's et al (2007) example (APPENDIX H, P: 330). First Steps in Research (1st ed.).(M. Maree, Ed.) Hatfield, Pretoria, South Africa, Van Schaik Publishers

CONSENT-TO-PARTICIPATE FORM   Appendix G

Dear Participant,

The following information is provided for you to decide whether you wish to participate as an interviewee in the present study. You should be aware that you are free to decide not to participate or to withdraw at any time.

The purpose of this study are to document trends in online engineering education in one developing country and to compare the current practice in online engineering education in developing countries with current practice in developed countries.

The interview may take between one to two hours, and it can take place in a comfortable place and time for you. I hope to get your consent to record the interview as audio and video materials to be hold until the publication of the study. The information that you provide will be integrated and triangulated with other data gathered by the researcher.

Do not hesitate to ask any questions about the study either before participating or during the time that you are participating. I would be happy to share the findings with you after the research is completed. However, your name will not be associated with the research findings in any way, and your identity as a participant will be known only to the researcher.

There are no known risks and/or discomforts associated with this study. The expected benefits associated with your participation are the information about the experiences in online engineering education only.

Please sign your consent with full knowledge of the nature and purpose of the procedures. A copy of this consent form will be given to you to keep.

_____   _____

Signature   Dat