Appendix A: Higher Certificate: Community Development Work

	FUNDAMENTAL OFFERINGS	CORE OFFERINGS
OFFERINGS	• Language of instruction • Numeracy • Computer literacy • Ethics, Rights and Democracy	• Sustainable Development Theory • Participative Development Practice • Legislation & Municipal Processes • Project Management • Financial Management and Budgeting • Community-based Research and Monitoring
DISTRIBUTION OF CREDITS	**24**	**106**

BRIEF JUSTIFICATION

The most disadvantaged groupings in society are often least able to access the programmes intended to benefit them, because they lack the education, information, or resources such as transport or documents required to drawn down the benefits. To close this gap, in 2003 the President put through Cabinet the initiative of Community Development Workers, to be organised by government. CDWs are envisaged as helping individuals and organisations achieve sustainable communities. The envisaged programme would also be highly suitable for community development practitioners in non-profit organisations, and private-sector counterparts (e.g. engaged in implementing corporate social responsibility programmes).

Four key features of the existing CDW programme make the envisaged qualification desirable: the shortfall in existing numbers of suitably qualified CDWs; that the competencies of incumbent CDWs need upgrade; that the new recruitment criteria for CDWs now recommends at least a school-leaving certificate for incumbents, making them eligible for the envisaged course; and that the qualification will be made available on a block-release basis supplemented by e-learning, of interest to intending participants who will already be employed as CDWs.

Appendix B: Advanced Diploma: Agricultural Extension Officer

1	Extension and Advisory Principles & Approaches (20)	**1**	Animal Production 4 (20)
2	Behavioural Change & Intervention in Extension and Advising (20)	**2**	Plant Production 4 (20)
3	Leadership, Group Dynamics and Networking in Extension and Advising (20)	3	Any other recognised speciality at NQF 7 or beyond.*
4	Project Planning, Implementation and Evaluation in Extension and Advising(20)	4	
5	Research Methodology in Extension and Advising(20)	5	

BRIEF JUSTIFICATION

The structure of an agricultural economy requires advising and extension to farmers. In South Africa these regular conditions are amplified the Land Restitution drive and providing access to emergent farmers who have been isolated for a long period from farm management practices in a commercialised farming environment. To bridge this intensive support is required in terms of production and management and strategic practices. In addition to the participation in commercial agriculture, the government also requires support for all food growers/producers, even those who do it at a subsistence level.

In view of the risk of food quantity security, the DoA has in the last decade designed a strategy to increase greatly the number of extension and advising staff. The quality of the extension and advising support must also improve. To effect such quality improvement will require, amongst others that additional training must be provided to the more than 7000 officials who will eventually be employed for the extension and advising services of DoARD. This number has been mentioned in serious DoARD documents.

Appendix C: Advanced Diploma: Health Management

COMPULSORY OFFERINGS (NQF7) (135 credits)		CLOSEST CESM CODES	ELECTIVE OFFERINGS	
1	Management Sciences (30)	090501	1	None
2	Health Delivery (30)	091309	2	
3	Healthcare Systems (30)	091309	3	
4	Social and Health Context and Institutions (15)	091309	4	
5	Research methodology (15)	181001	5	
6	Legislation, Policy and Ethics (15)	091901		

BRIEF JUSTIFICATION

Public health institutions in South Africa struggle with delivery because of several critical developments: growth in population size, the pressure on health systems created by HIV/AIDS, and deficits in recruitment, training and performance management of health workers in compliance with best practices. Service delivery challenges are only partly attributable to low ratios of doctors and nurses.

Equally important is the role of the health manager and the art effectivly managing her/his unit or department. The challenge is to motivate and capacitate staff to use health infrastructure to optimum capacity. Where other providers and qualifications are focused on the technical provision of health care interventions, what is required in addition is a more encompassing approach to the managerial context within which such technical interventions are operating.

This will also be the first qualification in health management registered from the outset as an Advanced Diploma.

Appendix D: B Ed: Senior Phase and FET Teaching

OFFERINGS	COMPULSORY SUBJECTS		NEAREST CESM CODE			NEAREST CESM CODE
	1	Major A in SP	0711		General Subject Methodology	070201
	2	Major B in FET	0712		Specific Subject methodology	070201
	3	Major C in FET	0712		School Based learning	070199
	4	Education Studies	070199		Fundamental Learning	070102
	5	Microteaching	070201			

	LEVEL 7	TOTAL
DISTRIBUTION OF CREDITS	Fundamental Learning: 36 Pedagogical Learning: 66 Disciplinary Learning: 312 Practical Learning: 108	522

BRIEF JUSTIFICATION

The CUT BEd has been completely redesigned taking account of feedback from an comprehensive external review. It is designed using successive trenches of school based learning through the four years of study to inform both what is taught how it is sequenced. Education Studies will be taught as integrated cross-cutting themes, rather than in disciplinary silos as in the present programme (Psychology of Education, Philosophy of Education etc.). In addition, it aligns to the new Policy on Minimum Requirement for Teacher Education Qualifications gazetted in July 2011, which no longer provides for a specialisation in FET teaching alone. The new requirement for a Senior Phase teaching subject has been taken into account in the proposed new qualification.

Appendix E: Diploma: Design and Studio Art

OFFERINGS			NEAREST CESM CODE			NEAREST CESM CODE
	1	Visual Culture	30503	6	Studio Practice	030599/299
	2	Professional Practice	30504	7	Work Integrated Learning	
	3	Drawing	30505	8	Management Studies	40199
	4	Digital Imaging	030599/299	9	Fundamental Learning	070102
	5	2D and 3 D Design	030599/299			

DISTRIBUTION OF CREDITS	LEVEL 6	TOTAL
		360

BRIEF JUSTIFICATION

Ten current design-type courses between them only produced some seventy graduates. An extensive review process which included research with both past students and current employers, and engagement with a consultancy, yielded a single new Diploma in Design and Studio Arts. It pioneers an innovative type of teaching and learning and is modelled on global trends for Art and Design Schools.

The departmental boundaries will fall away with the implementation of the new qualification. This is in keeping with all sectors of the visual communication industry (including art), who are moving away from labels of specialisation such as graphic designer, web designer, painter, sculptor, to developing a generation of so called “creatives” who can function across the platforms of innovation in art, filmmaking, clothing construction, design and advertising.

Accordingly, the proposed diploma encourages a broad conceptual understanding of design and studio arts, which can be flexibly applied across a range of different creative media, as well as ensuring that that graduates have solid professional practice skills to equip them to apply themselves effectively in their chosen fields. It provides for specialisation in either Studio Practice or in Management.

Appendix F: Advanced Diploma: Transportation Management

		COMPULSORY (NQF7) (108 credits)	NEAREST CESM CODE		ELECTIVE OFFERINGS (NQF7) (2x12=24credits)	NEAREST CESM CODE
OFFERINGS	1	Introduction to Research and Research Project (FL) (12)	070502	1	Traffic Planning and Management(12)	040109
	2	Project Management (FL) (12)	040110	2	Transportation and Highways Engineering(12)	080704
	3	Business Logistics and Management (24)	040101	3	Urban and Regional Planning(12)	040109
	4	Transportation Economics(12)	040499	4	Rail Transportation(12)	040109
	5	Inventory Management(12)	040103	5	Local transportation(12)	040109
	6	Freight Planning and Management (18)	040109	6	Infrastructure planning(12)	040109
	7	Transportation Planning (18)	040109	7	Quantitative Techniques and Optimization(12)	041001

DISTRIBUTION OF CREDITS	LEVEL 7	TOTAL
	FL = 24; CL = 84; EL=24	132

BRIEF JUSTIFICATION

The transportation industry in SA currently experiences several challenges, e.g. unprecedented growth in vehicle numbers, and the stress on the ability to supply and maintain transportation infrastructure. The proposed qualification will help co-ordination between authorities, providers and stakeholders. It will prepare students better for the complicated and contextualised nature of their chosen work environment, which spans engineers, budgeting officials, management officials, the public, political principals, transport providers or users etc.

Academics and local stakeholders, government and private, were consulted in a workshop and by questionnaire. Using numerical estimates from different sources, there seems to be a demonstrated opportunity of canvassing at least 60 learners annually in the feeder area. These persons are likely to be sponsored by their government or other employers.

Although there are many qualifications for logistics, transport, transportation and supply chain management listed on the NQF, they are at degree or postgraduate degree level; no Advanced Diploma is yet registered. Hence this qualification will position the CUT to fill an identified niche need.

Appendix G1: Higher Certificate: Renewable Energy Technologies

COMPULSORY	**CESM Fields**
Mathematics (24) (FL)	150101
Life-skills (24) (Language, entrepreneurship etc.) (FL)	070102 040599
Physics of energy conversion (12) (CL)	0899
Power Plant Systems & Operations (Fossil, Hydro, Bio-Gas, Solar, Wind) (12) (CL)	0899
Health & Safety (6) and Basic Electrical installation principles (6) (CL)	091304 0899
Storage of wind, solar and biogas converted electricity (12)	0899
ELECTIVES	
Solar homestead water heating installation and maintenance (12)	0899
Solar VC homestead installation and maintenance (12)	0899
Wind electrical homestead conversion installation and maintenance (12)	0899
Installation and maintenance of farmstead biogas generation plant and electrical converting devices(24)	0899

BRIEF JUSTIFICATION

Electricity production in South Africa is currently operating close to its margins, and — by global standards — with an unacceptable carbon footprint. There is currently a significant drive for establishing a range of alternate energy technologies, with solar and wind energy ventures developing rapidly in the country.

Some progress has been made by Higher Education institutions to provide training in this field as technical backup to the industry. On the SAQA website a number of unit standards below Level 6 are registered in solar and wind energy but not for instance in the use of bio gas for the generation of electricity. Two qualifications, one at NQF 2 and one at 3 are registered by the WESETA. By comparison they dedicate very few credits to RET.

The title of this proposed qualification will be unique at NQF 5.It will provide access to NQF 6 National Diploma in Engineering to aspiring students without a sufficient M-Score.

Appendix G2: Diploma: Sustainable Energy Adviser

	CESM (Closest)	Field	Semester	Credits	NQF
FL	070102	Communication Skills	S1	6	5
FL	060501	Computer Skills	S1	6	5
FL	150101	Mathematics	S1	12	5
CL	'0899	Digital Technology	S1	12	5
CL	'0899	Thermodynamics	S1	6	5
CL	'0899	Fluid Techniques	S1	6	5
CL	'0899	Applied Electrical Principles	S1	12	5
FL	150101	Mathematics	S2	12	6
CL	'0899	Industrial Electronics	S2	12	6
CL	'0899	Electrical Machines	S2	12	6
CL	'0899	Turbines (Wind & Gas)	S2	12	6
CL	'0899	Bio-Technology	S2	12	6
	Year 1: Fundamental Learning: 36; Core: 84 (TOTAL: 120)				
	Year 1: NQF 5: 60; NQF 6: 60 (TOTAL 120)				
FL	'0899	Energy Systems	S3	12	6
CL	'0899	Green Buildings and Practices	S3	12	6
CL	'0899	Mechanical Technology	S3	12	6
CL	'0899	Control Systems	S3	12	6
CL	'0899	Digital Communication	S3	12	6
CL	150101	Mathematics / Budget & Financing	S4	12	7
CL	'0899	Energy Audit	S4	12	7
CL	'0899	Energy Efficiency Project	S4	12	7
CL	'0899	Energy Management Technology	S4	24	7
EL	070102	Modern Communication Practices	S3	12	5
EL	040599	Entrepreneurship	S4	12	6
EL	070102	Management	S4	12	6
EL	150101	Statistics	S4	12	6
	Year 2: Fundamental Learning: 24; Core: 96 ; Elective: 24 (TOTAL: 144)				
	Year 1: NQF 5:12; NQF 6:72; NQF 7: 60 (TOTAL: 144)				
	WIL: Semester 5 (60 credits) (NQF 5); Semester 6 (60 credits) NQF 6				

BRIEF JUSTIFICATION

Electricity production in South Africa is currently operating close to its margins and — by global standards — with an unacceptable carbon footprint. There is a significant drive to establish a wide range of alternative energy technologies, with solar, biogas and wind energy amongst them. In addition electricity tariffs have risen steeply over the past year. Buildings, especially air-conditioning and lighting, are known to be the two highest electrical cost items in most non-manufacturing companies and organisations. In this context business of all kinds need audits, efficiency measures and often even replacement or supplementing technologies. This qualification is designed for these services. The proposed qualification will be unique to the National Qualification Framework, but is not internationally unique. At the next level, i.e. Advanced Diploma level, the economics of sustainable energy will find a higher profile.

Appendix H: Bachelor of Science: Hydrology and Water Management

DESCRIPTION OF MODULE/COURSE	Type	Nearest CESM	NQF Level	Credits
Language of Learning and Teaching I	FL	070102	**5**	**9**
Numeracy & Mathematical Literacy I	FL	150101	**5**	**6**
Personal and Process Competencies	FL		**5**	**3**
Computer Literacy	FL	60101	**5**	**6**
Chemistry	CL	140401	**5**	**24**
Physics	CL	140101	**5**	**12**
Applied Mathematics	CL	150201	**5**	**12**
Hydrology	CL	140605	**5**	**24**
Water Management	CL	140605	**5**	**12**
Envronmental Sciences	CL	140605	**5**	**12**
Hydro Chemistry	CL	140605	**6**	**24**
Geo-Hydro Physics	CL	140605	**6**	**24**
Hydrology II	CL	140605	**6**	**30**
Water Management II	CL	140605	**6**	**30**
Environmental Engineering	CL	80705	**6**	**18**
Hydrology III	CL	140605	**7**	**30**
Water Managenet III	CL	140605	**7**	**30**
Advanced Water and waste water treatment technology	CL	140605	**7**	**24**
WIL in Field of Specialisation	CL	140605	**7**	**12**
Water pollution control	EL	140605	**7**	**30**
Reticulation, design and management	EL	140605	**7**	**30**

BRIEF JUSTIFICATION

There is a need to protect and uplift water resources and infrastructure in South Africa and a shortage of more skilled people to administer the sustainable management of water and sanitation services and the available water resources. There are multiple job opportunities available in central, provincial or local government and the water industry as well as in the private sector and academia.

One one of the major constraints in managing water demand in South Africa is the absence of well-structured education and training programmes suitably targeted to stakeholders in the water management chain. Furthermore, the lack of knowledge and shortage in qualified water technologists and scientists was identified as the key reasons for the current water crisis in South Africa.

To address this burning issue, the BSc: Hydrology and Water Management qualification is proposed to develop a competent scientist/technologist with knowledge, skills and dispositions required for an occupation in hydrology and water management.