

ANNEX 1 (Agriculture Section)

No.	Items	Qty	Spec. / Notes
3	LABORATORY GLASSWARE		
3.1	Glass Burets – 50 ml standard	20	
3.2	Volumetric flasks – 5ml, 10 ml, 25 ml, 50 ml, 100 ml, 200ml, 250 ml, 500 ml, 1000ml	20 each	
3.3	Measuring Pipet – 1ml, 2ml, 5ml, 10ml, 25ml	20 each	
3.4	Pyrex Erlenmeyer Flasks – 25ml, 50ml, 125ml, 250ml, 500ml, 1000ml	20 each	
3.5	Measuring Cylinders – 10ml, 25ml, 50ml, 100ml, 250ml, 500ml, 1000ml	20 each	
3.6	Pyrex Beakers-10ml,20ml,30ml,50ml,100ml,150ml,250ml,600ml, 1litre, 2litre	20 each	
3.7	Test tubes – 16x 125mm, 18 x 150mm	20 each	
3.8	Pipet brushes	10	
3.9	Test brushes	10	
3.10	Funnels – 50mm, 65mm, 75mm, 100mm in top diameter	5 each	
3.11	Pipet fillers	5	
3.12	Lab micro spoon	10	
3.13	Micro Spatulas	10	
3.14	Glass Stirring Rods	10	
3.15	Draining Rack or Stand	5	
3.16	Rubber stoppers of different sizes to fit general glassware	1 dozen each	

ANNEX 2 (Agriculture Section)

No.	Items	Q'ty	Spec. / Notes
4	LABORATORY CONSUMABLES		
4.1	Acetic Acid (99%)		
4.2	Aluminum Sulphate		
4.3	Aluminum wire		
4.4	Ammonium Acetate		
4.5	Ammonium Chloride		
4.6	Ammonium Ferric Sulphate		
4.7	Ammonium Fluoride		
4.8	Ammonium Molybdate		
4.9	Ammonium Oxalate Oxalic Acid		
4.10	Ammonium Sulphate (M.A.R/Aristar Quality)		
4.11	Ascorbic acid		
4.12	Barium Chloride		
4.13	Boric Acid		
4.14	Bromocresol green methyl red indicator		
4.15	Caesium Chloride		
4.16	Calcium Carbonate		
4.17	Calcium Chloride (anhydrous dry)		
4.18	Calcium Hydroxide		
4.19	Carbolic Acid		
4.20	Chloroform		
4.21	Copper Sulphate		
4.22	Diphenylcarbazone		
4.23	Disodium hydrogen Orthophosphate		
4.24	Disodium hydrogen phosphate		
4.25	Disodium nitroferrous cyanide		
4.26	Ethanol 95%		
4.27	Ethanol L.R. r commercial grade 90%w/w		
4.28	Ferrous sulfate heptahydrate		
4.29	Ferrous ammonium sulfate		
4.30	Formic Acid 90%		
4.31	Hydrazine Sulphate		
4.32	Hydriodic acid sp. Gr. 1.7		
4.33	Hydriodic acid sp. Gr. 1.94		
4.34	Hydrochloric Acid		
4.35	Hypophosphorus acid 50%w/w		
4.36	Iron chips Leco cat no 501-077		
4.37	Kjeldahl Catalyst Tablets B.D.H		
4.38	Lanthanum chloride		
4.39	Levor IV wetting agent		
4.40	Magnesium Carbonate		
4.41	Magnesium Ribbon		
4.42	McCartney Bottle		
4.43	Mercury Salt		
4.44	Methyl Red Powder		
4.45	N-1-naphtylethylenediamine dihydrochloride (NEDD)		
4.46	NaDTT		
4.47	Nalgene bottle		
4.48	Nitric Acid		
4.49	NN'-dimethyl-p-phenylenediamine sulphate		
4.50	o-phenanthroline monohydrate		
4.51	Phosphoric Acid		

No.	Items	Q'ty	Spec. / Notes
4.52	Potassium antimony tartrate		
4.53	Potassium chloride		
4.54	Potassium diachromte		
4.55	Potassium Nitrate		
4.56	Potassium sodium titrate		
4.57	Potassium dihydrogen phosphate		
4.58	Potassium dihydrogen phthalate		
4.59	Silicic Acid		
4.60	Silver Thiourea		
4.61	Sodium Acetate		
4.62	Sodium Chloride		
4.63	Sodium Citrate		
4.64	Sodium Dithionite		
4.65	Sodium Flouride		
4.66	Sodium Hydrogen Tartrate		
4.67	Sodium Hydroxide		
4.68	Sodium hypochlorite		
4.69	Sodium Nitrate		
4.70	Sodium Nitroprussidae		
4.71	Sodium Pyrophosphate		
4.72	Sodium Salicylate		
4.73	Strontium Chloride		
4.74	Sucrose		
4.75	Sulphanilimide		
4.76	Sulphuric Acid (Analytical grade)		
4.77	Sulphuric Acid 98% w/w		
4.78	Technicon AutoAnalyser		
4.79	Tetra Sodium Pyrophosphate		
4.80	Tin Metal Leco cat. No. 501-076		
4.81	Triethanolamine		
4.82	Trisodium Citrate		
4.83	Zinc Acetate		
4.84	Whatman No. 541		
4.85	Whatman No.1 filter paper		
4.86	Whatman No.40		
4.87	Whatmann No. 2		
4.88	Whitemann No. 30 Filter paper		

J. Science Section, Dept. of Science, Agriculture & Helath

No.	Items	Qty	Spec./Notes
1 Measuring Instruments / Common Use			
1.1	Balance - Electronic Balance	2	Up to about 300-500g and reading to 0.01g, LCD digital read out
1.2	Balance - Electronic Semimicro/microbalance	2	Up to about 50 g and reading to 1mg
1.3	Balance - Electronic Analytical Balance	2	Up to 5g and reading to 0.1mg
1.4	pH meter - Bench	2	Digital, Automatic temperature compensation. Range 0-14, Accuracy ± 0.01 pH + 1 digit. Power battery (for field work). Two point calibration. Environment 0 - 50 C
1.5	pH meter - Hand held	2	Digital, Automatic temperature compensation. Range 0-14, Accuracy ± 0.01 pH + 1 digit. Power battery (for field work). Two point calibration. Environment 0 - 50 C
1.6	Spare electrodes (pH)	4	2 each for the above pH meters.
1.7	pH Calibration Kit	5	
1.8	Conductivity Meter		
1.9	Digital Hygro-Thermometer	2	Range -40 to 150° C, Resolution 0.1° C,
1.10	Thermometers, Mercury	10	White Backed, Range -5 to 105 C, General purpose stirring thermometers
1.11	Thermometers, Mercury	10	Yellow Backed, Range -5 to 105 C, General purpose stirring thermometers
1.12	Automatic Pipette, 1 - 10 μ l (Variable volume)	6	1 - 10 μ l, microlitre, variable volume, selection with digital indication of volume, and simple tip ejector facility
1.13	Automatic Pipette, 10 - 100 μ l (Variable volume)	6	10 - 100 μ l, Pipettes, microlitre, variable volume, selection with digital indication of volume, and simple tip ejector facility
1.14	Automatic Pipette, 100 μ l - 1000 μ l (Variable volume)	6	100 μ l - 1000 μ l, microlitre, variable volume, selection with digital indication of volume, simple tip ejector facility
1.15	Automatic Pipettes, 1ml - 5 ml (Variable volume)	6	1ml - 5 ml, Pipettes, microlitre, variable volume, selection with digital indication of volume, simple tip ejector facility
1.16	Pipette tips		Capacity: 1 - 10 μ l to 5 ml, different colours
2 Analytical Instrument / Common Use			
2.1	Spectrophotometers (2 x chemistry, 2 x Biology)	4	Compact, Wide range of operation, Microprocessor controlled, simple key-pad operation
2.2	UV-VIS Spectrophotometer	1	With standard software package & Thermal Printer & accessories, Wavelength : 200 - 1100 nm, Wave length accuracy ± 0.1 nm, repeatability ± 0.1 nm
3 Chromatography & Electrophoresis / Common Use			
3.1	Paper Chromatography	4	
3.11	Chromatography paper, grade 1	100 m rolls	Width 10mm, 20mm, 30mm 40mm 50mm, 100mm
3.12	Chromatography paper, grade 1	100 m rolls	For use with chromatography tanks
3.13	Chromatography paper, grade 1	300 sheets	Slotted, for rapid multiple analysis
3.2	Thin Layer Chromatography	1	Chromatography jar, TLC plates, chromatography colour, spray gun, spotting pipette, dropping pipette, indicators & aminoacids set.
3.21	Chromatography column	4-6	With delivery tube, nozzle and screw clamp
3.22	Chromatography Jar	6	Heavy borosilicate glass with lid. Height 100mm & 200 mm, diameter 100mm
3.23	Chromatography spray gun	6	For use in paper & thin layer chromatography for spraying locating agents on to chromatograms
3.3	Electrophoresis	1 set	SDS-polyacrymide, with Power supply unit & accessories
4 General Instrument / Common Use			
4.1	Bunsen Burner (Universal/general purpose)	10	Designed for wide range of gases, heavily nickel plated brass, Fitted to a steel base, Fitted with a collar air regulator
4.2	Auto Vortex Variable speed mixer	2	
4.3	Blender	2	
4.4	Homogeniser (1 x chemistry, 1 x Biology)	2	Table top, with various rods
4.5	Magnetic Stirrer / Hotplate	1	Powerful magnet. ON/OFF switch with indicator light. Max temp. 250° C., Max. Stirring speed 2000 rpm. Hotplate diameter 150 mm
4.6	Magnetic Stirrer	2	Resistant to most laboratory chemicals. Speed control dial, Maximum stirring capacity 1-1.5 L, Speed 100 - 1000 rpm
4.61	Stirrer Bars	10 each	12 mm, 25mm, 35 mm
4.7	Stirred Water baths	2	Digitally controlled thermostirrer, safety cut-out device, heater & temp. indicators. Temp range; 98° C, Table top
4.8	Centrifuge - Bench Top	2	General purpose centrifuge, swingout bucket, max.speed 3000 r.p.m., Safety interlock, Polyallomer tubes (approx 25cc)
4.9	Centrifuge - High speed & refrigerated	150	Microcomputer controlled high speed refrigerated centrifuge. Max speed 20,000 rpm, Max. force 50,000 g. Temp. control range -2 to + 40, with Beckman Polyallomer tubes
4.91	Rotor and 50 ml tubes	1	8 - 10 places fixed angle rotor with cover, Speed 20,000 rpm
4.92	Rotor and 16 ml tubes	1	24 places fixed angle Rotor with cover, speed 20,000 rpm.
4.10	Distilled water/ Deionised Water Machine	2	Grade 1/2 (British Standard); good for trace elements analysis, Flow rate: 2-3 liter per hour, A conductivity meter is incorporated. With replacement cartridges.

No.	Items	Q'ty	Spec. / Notes
4.11	Freeze-Dryer	1	Capacity: 4 - 6L, Temperature range: -50 to +60 C
4.12	Heating mantles, Fire Resistant	2	Flask capacity 100, 250, 500ml, Heater power 100-200W
4.13	Incubator/Sterilisers	2	Max. temp. 100° C, Accuracy :0.1 ° C, LCD temp. display, Stainless steel interior, Non-tip selves, Capacity 150 L
4.14	Laboratory Furnace	1	Small size, Maximum Temp. 1000 C, High efficiency insulation, Drop down door with safety switch
4.15	Oven	1	Temp range 30-200 C. Power rating 1000 W, Internal capacity 30-40 L, Solvent removal
4.16	Refrigerator	2	Standard refrigerator for storage of samples (biological, Animal & plant), Capacity :300 L
4.17	Deep Freezer (-20 °C)	1	Capacity 200-250 L, With sample containers .
5 Safety Equipment / Common Use			
5.1	Disposable Dust Masks	300	
5.2	Face shield	20	Protection against chemical splashes and impact
5.3	Safety Spectacles	60	Light weight, Thermally toughened 'thin glass' moulded frame with side shields
5.4	Lab. coats	60	Polyester cotton, white
5.5	Gloves, Disposable	300	medium & large
5.6	Gloves, Leather	20 pairs	General purpose medium weight glove, provide protection for the hand and forearm
5.7	Gloves, Rubber	20 pairs	General purpose medium weight glove
5.8	Laboratory First-Aid Chart (for teaching purpose)	3	Provide immediate reference to the first aid measures required in the event of an accident in the laboratory.
6 Analytical Instrument / Chemistry & Agriculture			
6.1	Flame Spectrometry	1	For Quantitative analysis. Analysis of alkali metals
6.2	Gas Chromatography	1	Quantitative chemical analysis. (e.g. To characterise a mixture of volatile fatty acids-acetic acids, butyric acid and propionic acid)
7 Dissecting tools / Biology & Agriculture			
7.1	Dissecting Instrument Set	60	
7.2	Dissecting Board	60	Wood
7.3	Scalpels with disposable blade	100	100 handles & 500 disposable blades
7.4	General Dissecting Scissors	10	
7.5	Surgical Scissors	10	
7.6	Sterile Scalpels	10	
7.7	Forceps, stainless steel	10	Blunt, Narrow flutes, Sharp
7.8	Dissecting needles, box of 100	10	Straight, stainless steel
8 Microscope & Optical Instruments / Biology & Agriculture			
8.1	Microscope	25	Routine microscope, with internal lightsource
8.2	Dissecting microscope	15	with illumination
8.3	Hand lenses	50	Convex lens, x10 magnification, Mounted in chromium/nickel plated frame
8.4	Inverted Microscope for Tissue culture	1	
8.5	Microscope, phase contrast with TV system	1	For demonstration use
8.6	Dry Cabinet for Microscopes	1-2	
9 Microbiology & Tissue Culture / Biology			
9.1	Autoclave	1	Standard type
9.2	Tissue Culture	1	1pc. X Multiwell Plates : Surface Treated Polystyrene, Sterilised. 10pcs. x 24 wells, flat-bottomed with lid, 10pcs. x 96 Wells, flat-bottomed with lid, 10pcs. x 96 Wells, round-bottomed with lid, 20 each X Containers: Polystyrene, Sterilised 250 ml with lid & 250 ml without lid
9.3	UV fluorescent tube	1 set	For sterilization
9.4	UV lamp	1	Fluorescence test, with handle
9.5	Ultrasonic Disintegrator	1	For the disintegration and disruption of living cells. (VIRTIS Ultra Sonic Cell Disrupters) 25 kHz generator, LED output indicator, power supply with stainless steel work surface & titanium micro probe.
10 Educational Media / Biology & Agriculture			
10.1	Educational slide set - Botany	1 set	
10.2	Educational slide set - Ecology	1 set	
10.3	Educational slide set - Evolution	1 set	
10.4	Educational slide set - Zoology	1 set	
10.5	Educational video films - Animal behavior	1 set	
10.6	Educational video films - Botany	1 set	
10.7	Educational video films - Ecology	1 set	
10.8	Educational video films - Environmental Science	1 set	
10.9	Educational video films - Evolution	1 set	
10.10	Educational video films - Zoology	1 set	
10.11	Microscope Slides Sets	1 set	Introductory Botany, General Botany, Comprehensive Plant Kingdom Collection, Cell Division Plant & Animal Comparison, Plant Form and Structure
10.12	Microscope Slides Sets	1 set	Plant Cytology, Histochemistry, Cell division, Genetics, Human genetics, Histology (Epithelial Tissues, Connective Tissues)
10.13	Chart/Poster - Five kingdoms of life	1	
10.14	Chart/Poster - Plant cell structure and Animal cell	1	

No.	Items	Qty	Spec. / Notes
10.15	Chart/Poster - Electrophoresis Techniques Reference	1	
10.16	Chart - Cell structure and cell division chart set	1	
10.17	Chart - Botany & Zoology Chart Series set	2	
10.18	Chart - Periodic Table and Atomic Data set	1	
10.19	Charts - Human System Charts	1 each	Brain, Heart, Vascular System, Nervous system Muscular System, Skeleton, Spine, Eye, lymphatic system, Respiratory system, Digestive system and Pregnancy/Birth
11	Models / Biology		
11.1	Model - DNA Molecular Model Kit	1	
11.2	Model - Organic Structure Model Set	1	
11.3	Model - Protein Synthesis	1	
11.4	Models - Plant & Animal cells, System, Organs	1 each	
12	Models / Chemistry		
12.1	Molecular Models - Sodium chloride	1	
12.2	Molecular Models - Diamond	1	
12.3	Molecular Models - Graphite	1	
12.4	Molecular Models - Scale atoms kit	2	Introductory kit & advanced kit
13	General Equipment / Common Use		
13.1	TV Monitor 29 inch	1	
13.2	VHS Video player	1	
13.3	Steel Cabinet for TV, VTR	1	
13.4	Slide Projector	1	Remote control
13.5	Movable Projector Screen	1	100/120 inch
13.6	Desktop Computer (Windows)	4	For Student use
13.7	UPS	4	
13.8	AVS	1	
13.9	Digital Camera	1	
14	Glassware / Biology & Agriculture	}	ANNEX
15	Glassware & Other / Common Use		
16	Consumables for Tissue Culture / Biology		
17	Consumables / Common Use		

ANNEX (Science Section)

No.	Items	Qty	Spec / Notes
14	Glassware / Biology & Agriculture		
15.1	Slides glass	100 packs	Plain, Thickness 1.0 mm, 100pcs/packet
15.2	Cover slips	100 packs	Square, standard size
15.3	Petri dishes (plastic)	10 packs	
15.4	Specimen Boxes	2	Clear round/rectangular
15	Glassware & Other / Common Use		
15.1	Test tubes - 10mm	250	Borosilicate glass, Resistant to thermal shock
15.2	Test tubes - 16mm	250	Borosilicate glass, Resistant to thermal shock
15.3	Test tubes - 16-25mm	250	Borosilicate glass, Resistant to thermal shock
15.4	Flask - Volumetric Stoppered - 10ml	50	Borosilicate glass, Glass/plastic stoppers
15.5	Flask - Volumetric Stoppered - 50ml	50	Borosilicate glass, Glass/plastic stoppers
15.6	Flask - Volumetric Stoppered - 100ml	50	Borosilicate glass, Glass/plastic stoppers
15.7	Flask - Volumetric Stoppered - 250ml	50	Borosilicate glass, Glass/plastic stoppers
15.8	Flask - Volumetric Stoppered - 500ml	50	Borosilicate glass, Glass/plastic stoppers
15.9	Flask - Boiling short neck - 100ml	10	Borosilicate glass, with graduations & sockets
15.10	Flask - Boiling short neck - 250ml	10	Borosilicate glass, with graduations & sockets
15.11	Flask - Boiling short neck - 500ml	10	Borosilicate glass, with graduations & sockets
15.12	Flask - Conical narrow mouth - 100ml	10	Borosilicate glass, with graduations
15.13	Flask - Conical wide mouth - 100ml	10	Borosilicate glass, with graduations
15.14	Flask - Distillation - 100ml	10	Side arm on all sizes 60° to the vertical axis
15.15	Flask - Filter - 100ml	10	Borosilicate glass
15.16	Flask - Filter - 500ml	10	Borosilicate glass
15.17	Flask - Flat bottom - 100ml	10	Pyrex/Borosilicate
15.18	Flask - Flat bottom - 500ml	10	Pyrex/Borosilicate
15.19	Flask - Round bottom - 100ml	10	Borosilicate glass
15.20	Cylinder - 25ml	20	
15.21	Cylinder - 50ml	20	
15.22	Cylinder - 100ml	20	
15.23	Cylinder - 250ml	20	
15.24	Cylinder - 500ml	20	
15.25	Cylinder - 1000ml	10	
15.26	Reagent Bottle - clear glass - 30ml	50	
15.27	Reagent Bottle - clear glass - 60ml	50	
15.28	Reagent Bottle - clear glass - 125ml	50	
15.29	Reagent Bottle - clear glass - 250ml	50	
15.30	Reagent Bottle - clear glass - 500ml	50	
15.31	Reagent Bottle - clear glass - 1000ml	30	
15.32	Beaker - 25ml	10	Pyrex/Borosilicate
15.33	Beaker - 50ml	10	Pyrex/Borosilicate
15.34	Beaker - 100ml	10	Pyrex/Borosilicate
15.35	Beaker - 400/500ml	10	Pyrex/Borosilicate
15.36	Beaker - 1000ml	6	Pyrex/Borosilicate
15.37	Beaker - 2000ml	6	Pyrex/Borosilicate
15.38	Pipette, Graduated	10 each	1, 2, 5, 10, 25 ml. For titration, Soda glass
15.39	Pipette, Pasteur	50 each	150mm & 230mm, Uncalibrated, for the transfer of fluids
15.40	Pipette, Disposable glass micro-pipette	500	Made of precision bore tubing
15.41	Pipette stand with base/support	2	Horizontal
15.42	Pipette storage/sterilising box	1	Round/telescopic box & Autoclavable
15.43	Burettes	20 each	Analytical grade, capacity 30ml & 50 ml, Non-stick stopcock
15.44	Bottle top dispenser	2	
15.45	Funnel - Buchner Polypropylene	5 each	Size 55 & 70 mm, Light weight. Top & bottom can/must be separated for easy cleaning
15.46	Funnel - Buchner Porcelain	2	
15.47	Funnel - Filter Glass	10 each	Short stem funnels with a cone angle of 60°, Diameter 75, 100,
15.48	Funnel - Separating, Conical type	4 each	Borosilicate glass with stopcock, Capacity 250 & 500 ml
15.49	Funnel - Separating, Cylindrical type	4 each	Borosilicate glass with stopcock, Capacity 250 & 500 ml.
15.50	Mortar & Pestle	10 each	Diameter 80mm, 130mm, 160mm, 230mm
15.51	Rod, Borosilicate	36	diameter, 5-6 mm
15.52	Rod, Soda glass	36	diameter, 5-8 mm
15.53	Spatula - Rounded	12	Stainless steel, length 100 mm, width 4mm
15.54	Spatula - Flat end & spoon	12 each	Stainless steel, Length 120, 180 mm

ANNEX (Science Section)

No	Items	Q'ty	Spec. / Notes
15.55	Spatula (Chataway's)	12	One end flat, other end bent up, polished nickel, Length 200mm
15.56	Scoops, Measuring	12 each	Length 60 mm, 200 mm
15.57	Stoppers, Cork	100	Bottom diameter 5mm to 50 mm
15.58	Stoppers, Rubber	100	Bottom diameter 5mm to 60 mm
15.59	Brush	25 each	Test tube brush, bottle brush, burette brush
15.60	Syringe, disposable	50 each	1ml, 2ml, 5ml & 10 ml
15.61	Syringe, polypropylene	25	100 ml
15.62	Desiccator, vacuum	2	Borosilicate glass
15.63	Desiccators	4	Borosilicate glass, flat bottom
15.64			
15.65	Tubing Capillary	10 meter	Borosilicate, in boxes of 10, 0.5 m length
15.66	Tubing heavy wall, rubber, red	5 meter	Bore size: 3mm, 5mm, 6mm
15.67	Tubing, Transparent	10 meter	Resistant to acids & alkalis, temp. up to 60° C Bore size: 3mm, 5mm, 6.5mm, 8 mm
15.68	Visking tubing & Clips	5 x 5 meter	A cellulose based, selectively permeable (can be used to demonstrate osmosis & dialysis separation techniques. Diameter 6, 14 mm)
15.69	Stand		
15.691	Bases, Retort Stand	25	Steel base with tapped hole, fitted with rubber feet
15.692	Rod	25	To fit bases (above mentioned)
15.693	Clamp	30	Rubberlined
15.694	Boss	30	Cast alloys
15.695	Clamp	30	Corklined jaws
15.70	Test tube holder	75	Spring steel wire holder
15.71	Test tube stand	25	Durable, non-corrosive both two tier & three tier rack
15.72	Storage containers	50	Small, medium & large
15.73	Sharps containers (Trash can for glass)	3	Capacity 5 litres, leakproof, puncture resistant
15.74	Trays, general	2	General trays for laboratory use
15.75	Trolley, apparatus	2	General trolley for laboratory use
15.76	Rat cage, large	6	Central food hopper with twin water bottle apertures plus water bottles & stainless steel nozzles
15.77	Stop clock	6	Timer with alarm
15.78	Stop watch	6	LCD display, Washable
16	Consumables for Tissue Culture / Biology		
16.1	Yeast extract, 1 kg	2	
16.2	Agar, 1kg	5	
16.3	Chloramphenicol, 1mg	2	
16.4	Glucose, 1 kg	3	
16.5	Malt extract, 1 kg	5	
16.6	Peptone, 1 kg	3	
16.7	Tetracycline, 1 mg	5	
17	Consumables / Common Use		
17.1	Whatman cellulose filter paper	2.5 cm ³ X 100 packs	Medium retention, Medium fast flow & analytical grade,
17.2	Filter paper	100 packs for each size	Diameter : 4.25cm, 5.5cm, 7cm, 9cm, 12cm, 15cm, 18cm, 24cm & 40cm. General purpose, Routine qualitative, Medium - Medium fast flow rate, No clogging Used for water analysis, Air pollution
17.3	pH indicator paper, Standard Litmus test	50	Range 1-14, Whatman, 5-6mm wide plus colour chart Red and
17.4	pH indicator paper, Universal indicator test	24	PH range 1-11
17.5	Starch test paper	24	For iodine tests

K. Equipment for Other Lecture Theaters & Classrooms

No.	Items	Qty	Spec. / Notes
1	New Lecture Room (will be built in the Old Library)		Seating capacity : 50
1.1	29 inch TV Monitor	1 unit	
1.2	VHS Video player	1 unit	
1.3	CD/DVD Player	1 unit	
1.4	Steel Cabinet for the above TV,VTR,CD/DVD player	1 unit	
1.5	OHP	1 unit	
1.6	Projector Screen	1 unit	
1.7	Extension power reel	1 unit	
2	Old Lecture Theater		Seating capacity : 100
2.1	29 inch TV Monitor	1 unit	
2.2	VHS Video player	1 unit	
2.3	Steel Cabinet for the TV & VTR	1 unit	
2.4	Projector Screen, Movable	1 unit	
2.5	Extension power reel	2 unit	
2.6	Pin Spotlight, stand type	1 set	w/color filters
2.7	Stage Spotlight, Plano-convex	4 units	
2.8	Stage Spotlight, Fresnel	9 units	
2.9	Cable Terminal Box	1 set	
2.10	Lighting Control Board	1 unit	
2.11	Lamp for Spotlight	30 units	
2.12	Audio System:		
2.121	Amplifier	1 unit	
2.122	Mixer	1 unit	
2.123	Equalizer	1 unit	
2.124	Speaker system	1 set	
2.125	Tape Recorder/Player	1 unit	
2.126	CD/DVD Player	1 unit	
3	Classrooms in the Departments		
3.1	TV System:	4 sets	1 set each for the Department of;
3.11	25/29 inch TV Monitor	1	Educational Foundation
3.12	VHS Video player	1	H.Eco., Design & Tech.
3.13	CD/DVD Player	1	Maths & Computing
3.14	Steel Cabinet for the above TV,VTR,CD/DVD player	1	Social Science & Commerce
3.15	Extension power reel	1	
3.2	Projector Screen, Movable	5 units	100 inch
3.3	White Board, Movable	5 units	
4	Life Skills Center		
4.1	Compact Stereo System (CD, Tape)	1 set	
4.2	25/29 inch TV Monitor	1 unit	
4.3	VHS Video player	1 unit	
4.4	DVD Player	1 unit	

L. Equipment for Design & Technology Section, Dept. of H.Econ, Design & Tech.

No.	Items	Q'ty	Spec. / Notes
1 METAL WORKSHOP			
1.1	Metal Lathe	2 units	Swing over the bed 535mm Bc. Spindle bore 27mm, 16 speed belt drive, Forward/Reverse switch, 560 Watt, 415V/3-Phase/50AC
1.2	Power Hacksaw	4 units	127mm stroke length, Cutting speed 120 strokes per minute, Blade length 400mm, 0.75KW 415V
1.3	Welder	2 units	40-400amps, 415V/3-Phase/50HZ
1.4	Spot Welder	1 unit	Pedestal, 10KVA
1.5	Compressor	1 unit	Direct drive, Receiver capacity 40 liters, Piston displacement 15cfm, 2.2KW Motor X 240V/1-Phase
1.6	Tube Bender	1 unit	With 5 formers from 12mm to 25mm
1.7	Industrial Vacuum Cleaner	1 unit	for cleaning the machines in metalwork shop
2 WOOD WORKSHOP			
2.1	Woodworking Lathe	2 units	1000mm distance between Centers, 420mm Swing, 0.75KW TEFC Motor X 240V/1-Phase
2.2	Dust Extractor	3 units	Inlet Diameter 178mm, Max. capacity 2550cm ³ /h -1500cmf, Collection capacity 240 liters, 1.5KW Motor X 240V/1-Phase

M. Equipment for Home Economics Section, Dept. of H.Econ, Design & Tech.

No.	Items	Q'ty	Spec. / Notes
1 CLOTHING LABORATORY			
1.1	Electric Sewing Machine	10 units	Table top, Durable model
2 FOOD LABORATORY			
2.1	Refrigerator	1 units	450 L
2.2	Freezer	1 units	300 L, Upright
2.3	Household Electric Stove	4 units	
2.4	Household Dishwasher	1 units	
2.5	Educational Video programs	1 set	Food related disease/microorganism, Food contamination/spoilage, Food fermentation
2.6	Desktop Computer (Windows)	2 units	Common use in the Clothing & Food Laboratory
2.7	UPS	2 units	

N. Equipment for Technical Vocational Section, Dept. of H.Econ, Design & Tech.

No.	Items	Q'ty	Spec. / Notes
1	LATHE AND MILLING MACHINES		
1.11	Measuring Instrutions- Vernier Caliper	1	
1.12	Measuring Instrutions- Micro Meter 0.25mm	1	
1.13	Measuring Instrutions- Micro Meter 25-50mm	1	
1.14	Measuring Instrutions- Micro Meter 50-75mm	1	
1.15	Measuring Instrutions- Micro Meter 75-100 mm	1	
1.2	Surface Gauge	1	
1.3	Vernier Height	1	
1.4	Dial Indicator gauge	1	
1.5	Marking out table	1	
2	PLUMBING TRADE		
2.1	Blow lamp , medium	3	
2.2	Pipe cutter, 3"	3	
2.3	Tube bender, copper/500 mm long	2	
2.4	Tiinsnips (straight)	4	
2.5	Rivet gun	3	
2.6	Silicon gun, 250mm long	3	
2.7	Tinships (right hand) 150mm long	3	
2.8	Electric Drill, 450 Amps	2	
2.9	Stillson, 150mm long	3	
2.10	Guiltone, Manual 90 kg	2	
2.11	Bender, Galvanize bender	2	
2.12	Scriber (metal) 100mm long	3	
2.13	Hacksaw, 300mm long	3	
2.14	Claw Hammer, 10 pound	5	
2.15	Plunger 4", 100mm	4	
2.16	Flaring tool, 100mm	2	
2.17	Copper tube expander, silve	2	
3	CARPENTRY TRADE		
3.1	Combination Square (adjustable)	4	
3.2	Tape Measure set	4	
3.3	Claw hammer set, 10 pound	4	
3.4	Chisels set	4	
3.5	Screw Driver set	4	
3.61	Handsaw, 26 inches- Crosscut Saw (set)	4	
3.62	Handsaw, 26 inches- Tenon saw	4	
3.63	Handsaw, 26 inches- Coping saw	2	
3.64	Handsaw, 26 inches- Hacksaw	4	
3.71	Hand Planes, Medium- Smoothing plane	2	
3.72	Hand Planes, Medium- Jack plane	2	
3.73	Hand Planes, Medium- Block plane	2	
3.8	Ratchet screw drivers, 600mm long	3	
3.9	Screw driver bit set	2	
3.10	Hand Brake Drill	4	
3.11	Spiral Brace	5	
3.12	Power Drill (Portable)	1	
3.13	Battery Operated Drill (Portable)	1	
3.14	Disc Grinder (Portable)	1	
3.15	Electric Jig saw (Portable)	1	
3.161	Electric Sander - Vibrating Type	1	
3.162	Electric Sander - Belt Sander Type	1	

No.	Items	Q'ty	Spec. / Notes
3.17	Electric Portable Router	1	
3.18	Sliding Bevel	4	
3.19	Marking knives	5	
3.20	Nail pincher	5	
3.21	Extension drill bet set, 200mm long	4	
3.22	Triangular file	4	
3.23	Sawset	3	
3.24	Sledge hammer	2	
3.25	Dampy level set	1	
3.26	Wrench Spanner, 200mm long	2	
3.27	Wrench Spanner, 150mm long	1	
3.28	Open end spanner set	1	
3.29	Ring spanner set	2	
3.30	Folding ruler	2	
3.31	Fix square/try square, 200mm long	2	
4	METAL FABRICATION & WELDING		
4.1	Transmil Welder	1 set	
4.2	Easy/Portable welder	1	
4.3	Power Hacksaw Mach.	1	
4.4	Metal Cutter	1	
4.5	Pipe Bender	1 set	
4.6	Electrode hot warmer	1	
4.7	Portable hand grinder	1	
4.8	Portable hand drill	1	
4.9	Steel rule	5	
5	AUTOMOTIVE ELECRICAL		
5.11	Multi Tester - Digital	2	
5.12	Multi Tester - Analog	2	
5.21	Battery Charges - Booster	1	
5.22	Battery Charges - Trickle	1	
5.3	Ammeter	1	
5.4	Voltmeter	1	
5.5	High rate discharge tester	1	
5.61	Soldering iron - Small/Meduum	1	
5.62	Soldering iron - Large	1	
5.7	Hydrometer	2	
5.8	Cadium Tester	2	
5.9	Lug Crimpler	1	
5.10	Wire cutter	1	
5.11	Electrical Tools	Various	
5.12	OHM Meter	2	
5.13	Test Bench	1	
6	MOTOR MECHANIC		
6.1	Screw Driver set	1 set	
6.2	Diagnal/side cutter plier	1	
6.3	Combination Plier	1	
6.4	Long Nose/pointer	1	
6.5	Circlip plier (internal)	1	
6.6	Circlip Plier (external)	1	
6.7	Vice Gripping plier	1	
6.8	Torque Wrench - 1/2 inch Drive	1	
6.9	Torque Wrench - 3/4 inch Drive	1	
6.10	Adjustable Wrench - 15 inch	15	

No.	Items	Qty	Spec. / Notes
6.11	File (Meta)	1 set	
6.12	Chain Block – S.V.L 2 ton	1	
6.131	Combination Spanners - 10mm	1	
6.132	Combination Spanners - 8mm	1	
6.133	Combination Spanners - 6mm	1	
6.14	Timing light	1	
6.15	Test Light	1	
6.16	Multi-metre	2	
6.17	Air Press-Gauge (reading)	1	
6.18	Floor Jack - 2 ton jack	1	
6.19	Safety stands	4	

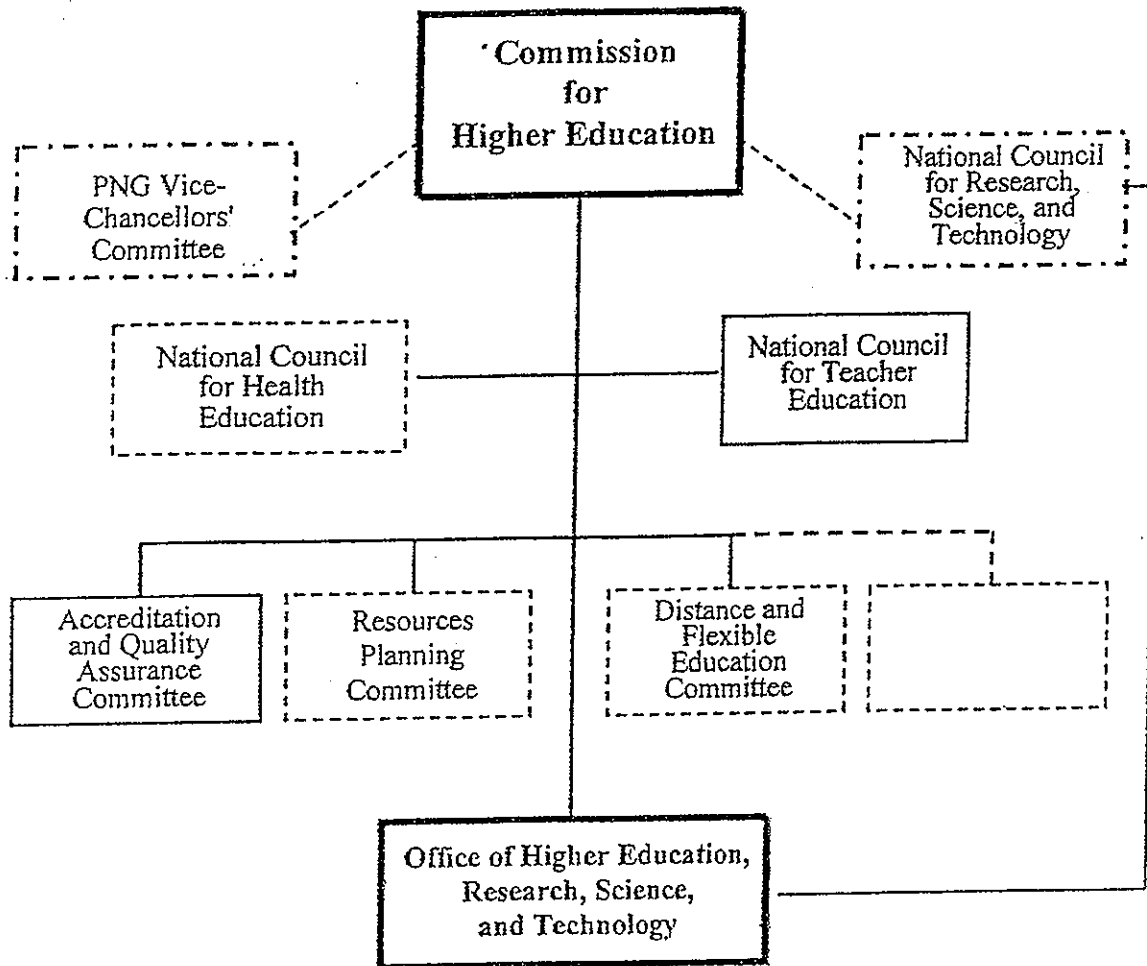
O. Office Equipment

No.	Items	Q'ty	Spec. / Notes
1	Dept. of Social Science & Commerce		
1.1	Scanner	2 units	A4 (S.Science x 1, Commerce x 1)
2	Dept. of Language & Literature		
2.1	Photocopier	1 unit	
2.2	Scanner	1 unit	
3	Life Skills Center		
3.1	Photocopier, Heavey duty	1 unit	
3.2	Desk Top Computer with 17 inch monitor	1 unit	CD-RW
3.3	Laser Printer	1 unit	
3.4	UPS	1 unit	
4	PNG Journal of Teacher Education Room		
4.1	Desk Top Computer with 17 inch monitor	1 unit	CD-RW
4.2	Laser Printer	1 unit	
4.3	Scanner	1 unit	
4.4	Digital Camera	1 unit	
4.5	UPS	1 unit	
4.6	Table & Chair for Computer	1 unit	Secretary use
4.7	Metal Cabinet	1 unit	
4.8	Fax machine	1 unit	

P. Other

No.	Items	Q'ty	Spec. / Notes
1	300 KVA Standy Generator	1 unit	

CHE and OHERST Organisational Chart



添付資料 UOG における IT 開発¹

1999年8月 Academic Board により、Working Group(WG)を設立し、ハード・ソフトの両面から UOG における IT の活用・支援体制・運用管理の現状を調査することが決定された。さらに WG には学内の IT 開発の方向性を示すことが課せられた。

調査当時の学内 IT (パソコン) 整備は各部門が独自に行っており、管理・メンテナンスの点からも統一した方向性とゴールを持った開発計画が必要なことは明らかであった。WG はインターネット (e-mail) への学内ニーズを念頭に、5年間 (2000-2005) を開発の第一段階期間と定め、計画策定に取り組み、IT 開発に関する計画・予算・調達・管理を担当する IT 部門と IT Committee の設立、調達の一元化、Position の設置、人材確保・育成、LAN システム、情報共有のあり方などの具体的な提言を行うとともに、Five-year Network Plan 2000-2005 を 1999年12月に策定した。

この Five-year Network Plan は翌 2000 年に Academic Board により承認された。LAN インフラ整備については詳細なシステムダイアグラムを作成後、500,000 Kina の予算が割り当てられ、2000年に設置工事を開始、2001年から学内 LAN の運用が始まった。本調査時 (2003年3月初旬) における学内 LAN システムの概要は以下のとおり。

UOG LAN システム概要

学内 Network	: UTP ケーブル (100Mbps)
www アクセス	: TELIKOM 専用線の従量制リース契約 (64Kbps)
サーバー	: Windows NT Server 3 台 (File server 1 台、Internet Server 1 台、管理 server 1 台)
クライアント PC 台数	: 当初計画 66 台、 現在約 150 台 (部門別の PC 台数は別紙参照)

Five-year Network Plan の内容は、LAN インフラ整備のみでなく、人材確保と IT 部門の設立、情報データベースや書類管理システムの整備も含むものであった。

IT 部門については、LAN 運用管理のみでなく、Library (図書館長) の下に位置するサービス部門 (AV Section, Printery Section) も包括する組織として計画された。当初要員として Manager 1 名 (Grade14)、System Analyst 1 名 (Grade12) および秘書 1 名を確保し、情報データベース等整備は新規雇用された Manager が実施計画を策定し取り組む計画となっている。

しかし、LAN インフラ整備は行われたものの、LAN システムの有効活用に関する計画を策定・実施できる人材の確保と IT 部門設立、情報データベース等整備は未だ実行に移されていない。LAN が稼動して以来、LAN 管理運用については JOCV 隊員²がその責務を負っているのが現状である。

JOCV 隊員のカウンターパート確保については、JICA PNG 事務所から大学側にレター

¹ IT Development for UOG 2000-2005, IT Working Group, Dec. 1999 及び聞き取り情報に基づく。

² JOCV 隊員は WG のメンバーとして Five-year Network Plan 策定にも参画しており、LAN システム整備に関わる隊員は現在で 2 代目である。

が提出されている。学内においても、本調査期間中に IT Committee 議長から IT 部門の人材確保と併せて、PRMC (Planning Resource Management Committee) の協議事項とする旨のレターが提出された。現地調査後 3 月末に大学側から得た情報では、JOCV 隊員カウンターパートとして、Network Manager (Grade 13/14)が 2004 年に雇用されることが 3 月の PRMC で合意された。

部門別クライアントPC台数 (2003年3月初旬現在)

	PC台数 *1	プリンター台数 *2
a. 既にLANに接続済み		
Dept. of Social Science & Commerce	11	4
Dept. of Language & Literature	10	3
Dept. of Exp. Arts & Religious Education	3	1
Dept. of Home Econ. Design & Technology		
Home Economic Section	4	2
Design & Technology Section	2	1
Technical Vocational Section	2	1
Dept. of Maths & Computing	5	2
Computer Teaching Lab.	35	2
Student Open Lab. (male)	22	1
Dept. of Science, Agriculture & Health	11	3
Dept. of Curriculum & Teaching	7	3
Dept. of Education Foundations	6	2
Library *3	8	4
Personnel Management Division	4	}
Finance Management Division	5	
Planning Division	3	
Student Administration Division	5	
Building & Estate Division	2	1
Student Services Division	2	1
小計	147	34
b. 今後LANに接続する可能性があるもの *4		
Dept. of Home Econ. Design & Technology		
Students' PCs in Technical Vocational Section	10	
Student Open Lab. (female)	18	1
Ethnomathematics Center	3	
小計	31	1
合計台数 (a + b)	178	35

*1 / サーバーを含む

*2 / LAN接続していないPCに繋がっているプリンター(9台)は含まない

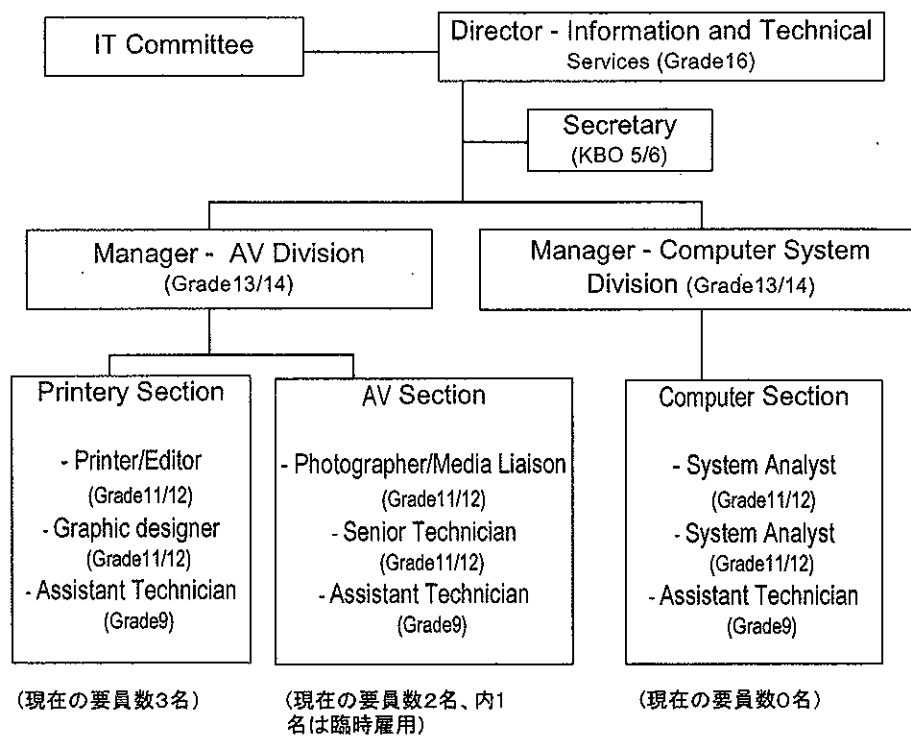
*3 / 図書検索用パソコン(8台)は含まない。

*4 / 本計画で要請のパソコン・プリンターは含まない。

学内 LAN 維持運営費

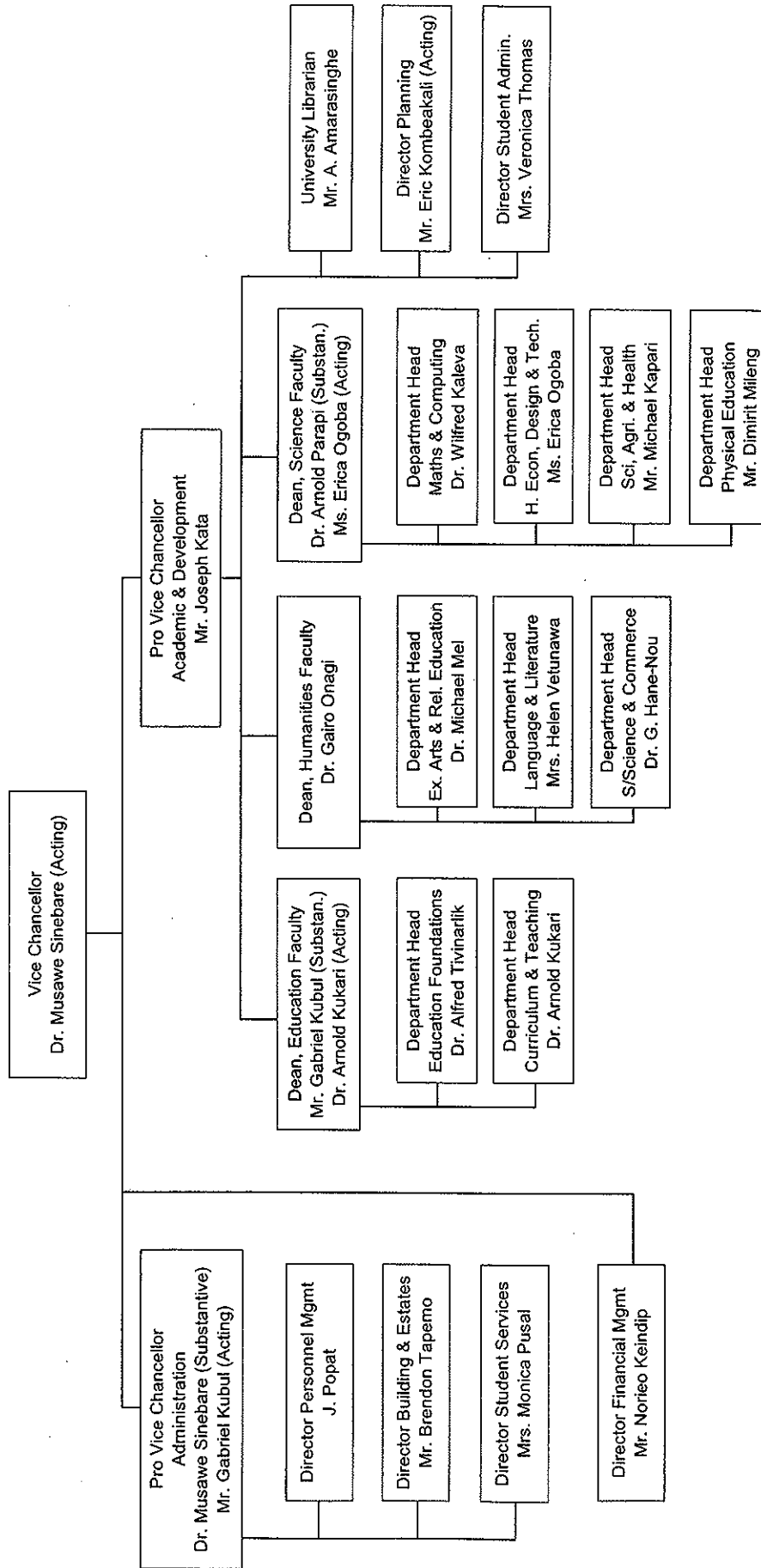
年間予算	200,000 Kina
支出実績 (2002 年)	48,935 Kina
(内訳)	
通信費	41,862
機材管理費	985
追加機材購入	5,733
その他	355

Source: IT 管理担当 JOCV 隊員



Five-year Network Planで提案されたIT部門組織図

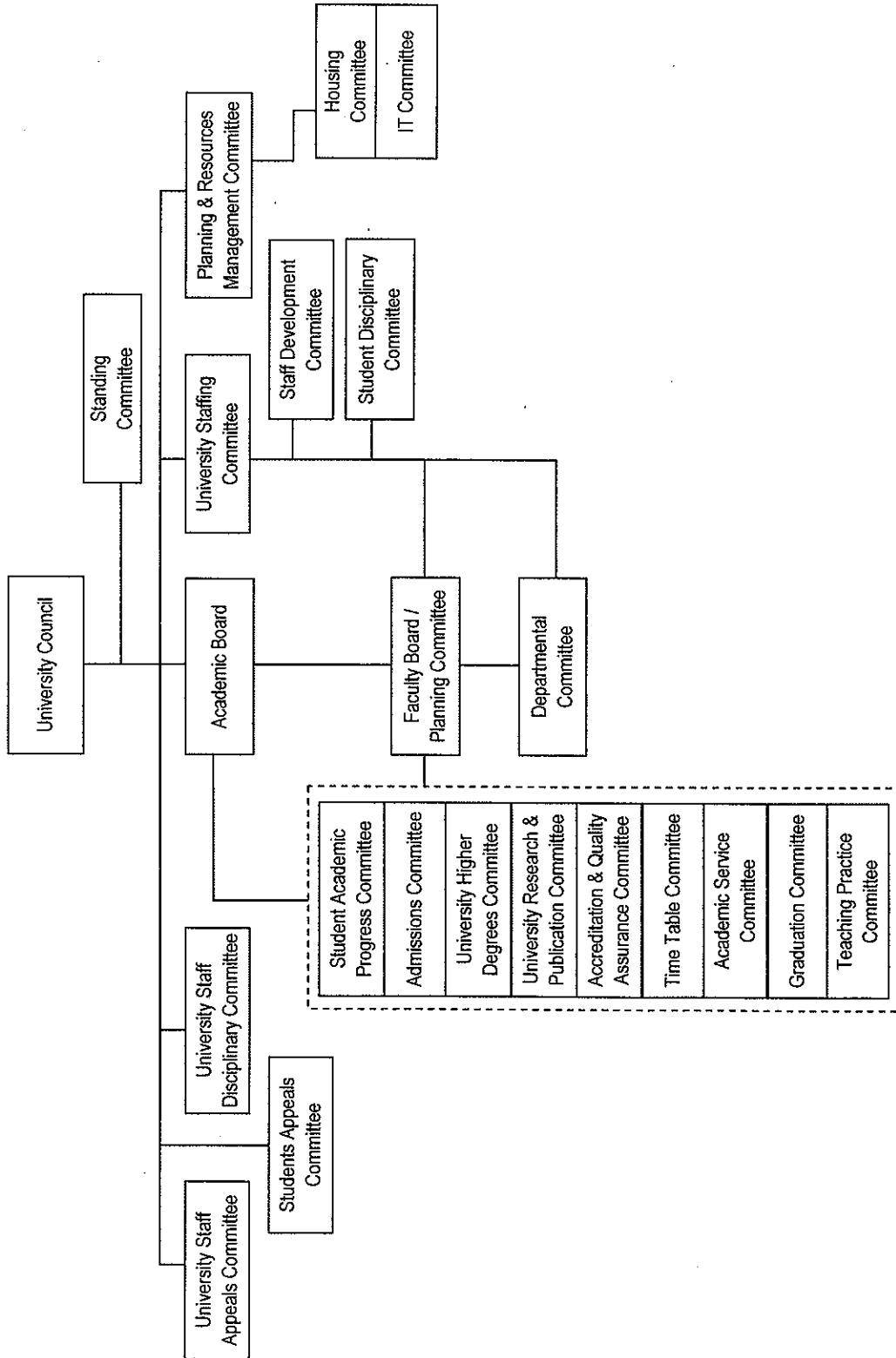
添付資料 ゴロカ大学組織図
Administrative Structure, The University of Goroka



添付資料 委員会の名称・役割

Council	Established by Act of Parliament – Policy Matters and overall governance of the University.
Academic Board	Committee of Council that makes policy decisions concerning all academic matters and reports to Council.
Planning & Resources Management Committee	Committee of Council that deals with policy issues regarding management and control of finances and other physical resources, and reports to Council.
Accreditation & Quality Assurance Committee	Committee of Academic Board that deals with issues regarding quality control of academic programs, accreditation of courses, and programs.
Admissions Committee	Committee of Academic Board that considers issues on admission and re-admission of students.
Faculty Boards/Faculty Planning Committee	Established to consider academic matters concerning the faculty.
Graduation Committee	Committee of Academic Board to deal with issues concerning Graduation
Housing Committee	Committee of PRMC that deals with house allocation, rentals, and policy regarding accommodation.
Staff Development Committee	Committee of Academic Board that deals with issues regarding training of staff.
Students Academic Progress Committee	Committee of Academic Board that deals with assessment, appeals against exclusion and provide policy advice and develops academic rules & regulations.
Students Appeals Committee	Committee of Council that considers appeals by students on academic and disciplinary cases.
Student Disciplinary Committee	Committee of Academic Board that deals with disciplinary cases of students and provides policy/rules governing the committee.
Teaching Practice Committee	Committee of Academic Board that deals with Teaching Practice, placements, assessment of TP, and provides advice on TP to Academic Board.
Timetable Committee	Committee of Academic Board that deals with issues concerning academic Timetable.
University Higher Degrees Committee	Committee of Academic Board that deals with postgraduate studies, develops policies and advice to AB.
University Research & Publication Committee	Committee of Academic Board that deals with research, consultancy and publication, manages research funds, and consider applications for research and publication.
University Staffing Committee	Committee of Council that deals with staffing issues; recruitment, promotion and renewals and reports to Council.
University Staff Disciplinary Committee	Committee of Council that deals with staff discipline and reports to Council.
University Staff Appeals Committee	Committee of Council that considers appeals by staff regarding staffing decisions as well as staff discipline.
Academic Service Committee	Committee of Council
IT Committee	Committee of PRMC

添付資料 委員会の階層構造図



Home Economics, Design & Technology Department, Home Economics Section

Summary of Course Codes and Titles

PRESERVICE ONE	
SEMESTER ONE	SEMESTER TWO
SHEC 121 - Introduction to Clothing and Design	SHEC 111 - Introduction to Food and Nutrition SHEC 171 - Human Development
PRESERVICE TWO	
SEMESTER ONE	SEMESTER TWO
SHEC 211 - Nutrition and Meal Planning	SHEC 221 - Textiles and Clothing Construction SHEC 272 - Family Consumer Issues
PRESERVICE THREE	
SEMESTER ONE	SEMESTER TWO
SHEC 311 - Nutrition Through the Lifespan SHEC 332 Family Management in a Changing World. World SHEC 391 Introduction To Home Economics Education. *	SHEC 321 - Textiles and the Consumer SHEC 331 - Housing and Interior Design SHEC 392 Home Economics Curriculum and Instruction.
PRESERVICE FOUR	
SEMESTER ONE	SEMESTER TWO
SHEC 421 - Social and Cultural Perspectives On Clothing. SHEC 432 - Family Issues in Papua New Guinea Micro Teaching.	SHEC 411 - Cultural Food Practices SHEC 481 - Independent Project. Practice Teaching.
INSERVICE ONE	
SEMESTER ONE	SEMESTER TWO
SHEC 121 Introduction To Textiles & Design SHEC 211 - Nutrition and Meal Planning SHEC 311 Nutrition Through the Lifespan. SHEC 332 Family Management in a Changing World.	SHEC 221 - Textiles and Clothing Construction SHEC 231 - Human Development: A Lifespan Perspectives SHEC 321 - Textiles and the Consumer SHEC 331 - Housing and Interior Design
INSERVICE TWO	
SEMESTER ONE	SEMESTER TWO
SHEC 421 - Social and Cultural Perspectives On Clothing SHEC 432* Family Issues in Papua New Guinea SHEC 332* Family Management in a Changing World. SHEC 422* Advanced Pattern Styling Techniques SHEC 311* Nutrition Through the lifespan (* Only 2 of the above will be taken)	SHEC 411 - Cultural Food Practices SHEC 481 - Independent Project

**Home Economics, Design & Technology Department
DESIGN & TECHNOLOGY**

COURSE SUMMARY FOR PRE-SERVICE IN CONTINGENCY MODEL

LEVEL 1-4 PRE-SERVICE PROGRAMME (2002-2005)

LEVEL	YEAR	COURSES	CREDIT POINTS		
			SEM 1	SEM 2	TOTAL
1	2002	LS & CTS	3	3	6
		SUBJECT A			
		SDTE 101 BASIC TECHNOLOGY 1A	3		3
		SDTE 102 BASIC TECHNOLOGY 1B		3	3
		SUBJECT B CONTENT	3	3	6
		SDTE 171 INTRODUCTION TO WELDING (COGNATE A)		3	3
		COGNATE B	3		3
					24
2	2003	EDUCATION STUDIES	3	3	6
		SUBJECT A			
		SDTE 201 BASIC TECHNOLOGY 2A	3		3
		SDTE 202 BASIC TECHNOLOGY 2B		3	3
		SUBJECT B CONTENT	3	3	6
		SDTE 271 HARD AND SOFT STRIP WEAVING (COGNATE A)		3	3
		COGNATE B	3		3
					24
3	2004	EDUCATION STUDIES	3	3	6
		SUBJECT A			
		SDTE 311 DRAWING PRACTICE 3	3		3
		SDTE 321 WOOD PRACTICE 3		3	3
		SDTE 331 METAL PRACTICE	3		3
		SDTE 341 HANDICRAFT PRACTICE 3		3	3
		SDTE 391 WORKSHOP TEACHING & ANALYSIS	3		3
		SDTE 392 WORKSHOP MANAGEMENT		3	3
		SUBJECT B (MINOR) C&I	3	3	6
					30
4	2005	EDUCATION STUDIES	3	3	6
		SUBJECT A			
		SDTE 411 DRAWING PRACTICE 4		3	3
		SDTE 421 WOOD PRACTICE 4	3		3
		SDTE 431 METAL PRACTICE 4	3		3
		SDTE 451 MOTOR MECHANICS		3	3
		SDTE 481 RESEARCH METHODS	3		3
		SDTE 482 DESIGN & TECHNOLOGY PROJECT		3	3
		MICRO TEACHING & TEACHING PRACTICE	3	6	9
					33

DESIGN & TECHNOLOGY DISCIPLINES AND STRANDS

0	<p><u>FOUNDATION/GENERAL COURSE</u> SDTE 101 BASIC TECHNOLOGY 1A SDTE 102 BASIC TECHNOLOGY 1B SDTE 201 BASIC TECHNOLOGY 2A SDTE 202 BASIC TECHNOLOGY 2B</p>
1	<p><u>DRAWING PRACTICE</u> SDTE 311 DRAWING PRACTICE 3 SDTE 411 DRAWING PRACTICE 4</p>
2	<p><u>WOOD PRACTICE</u> SDTE 321 WOOD PRACTICE 3 SDTE 421 WOOD PRACTICE 4 SDTE 322 FURNITURE UPHOLSTERY</p>
3	<p><u>METAL PRACTICE</u> SDTE 331 METAL PRACTICE 3 SDTE 431 METAL PRACTICE 4</p>
4	<p><u>HANDICRAFT PRACTICE</u> SDTE 341 HANDICRAFT PRACTICE 3</p>
5	<p><u>REPAIR AND MAINTENANCE</u> SDTE 451 MOTOR MECHANICS</p>
6	<p><u>PLASTIC</u> SDTE 361 PLASTIC PRACTICE 3</p>
7	<p><u>COGNATE</u> SDTE 171 INTRODUCTION TO WELDING SDTE 271 HARD AND SOFT STRIP WEAVING</p>
8	<p><u>RESEARCH METHODS/PROJECT/SEMINAR</u> SDTE 481 RESEACH METHODS SDTE 482 DESIGN AND TECHNOLOGY PROJECT</p>
9	<p><u>CURRICULUM AND INSTRUCTION</u> SDTE 391 WORKSHOP TEACHING AND ANALYSIS SDTE 392 WORKSHOP MANAGEMENT SDTE/ETE 491 MICRO TEACHING SDTE/ETE 492 TEACHING PRACTICE SDTE/ÉTE 591 (PGDE) MICRO TEACHING SDTE/ETE 592 (PGDE) TEACHING PRACTICE</p>

**Home Economics, Design & Technology Department
DESIGN & TECHNOLOGY**

B. ED. PRE-SERVICE PROGRAMME STRUCTURE (CONTINGENCY MODEL)

LEVEL	SEM.	CODE	COURSE TITLE	CDT PTS	HRS	MAJ/MNR
ONE	1	SDTE 101	BASIC TECHNOLOGY 1 A Module 1 - DRAWING PRACTICE 1 Module 2 - WOOD PRACTICE 1	3	5	
		SDTE 102	BASIC TECHNOLOGY 1 B Module 3 - METAL PRACTICE 1 Module 4 - HANDICRAFT PRACTICE 1	3	5	
		SDTE 171	INTRODUCTION TO WELDING	3	5	COGNATE
TWO	1	SDTE 201	BASIC TECHNOLOGY 2 A Module 1 - METAL PRACTICE 2 Module 2 - HANDICRAFT PRACTICE 2	3	5	
		SDTE 202	BASIC TECHNOLOGY 2 B Module 3 - DRAWING PRACTICE 2 Module 4 - WOOD PRACTICE 2	3	5	
		SDTE 271	HARD AND SOFT STRIP WEAVING	3	5	COGNATE
THREE	1	SDTE 311	DRAWING PRACTICE 3	3	5	MAJ
		SDTE 331	METAL PRACTICE 3	3	5	MAJ
		SDTE 391	WORKSHOP TEACHING & ANALYSIS	3	5	MAJ/MNR
	2	SDTE 321	WOOD PRACTICE 3	3	5	MAJ
		SDTE 341	HANDICRAFT PRACTICE 3	3	5	MAJ
		SDTE 392	WORKSHOP MANAGEMENT	3	5	MAJ/MNR
FOUR	1	SDTE 421	WOOD PRACTICE 4	3	5	MAJ
		SDTE 431	METAL PRACTICE 4	3	5	MAJ
	2	SDTE 411	DRAWING PRACTICE 4	3	5	MAJ
		SDTE 451	MOTOR MECHANICS	3	5	MAJ
		SDTE 482	DESIGN & TECHNOLOGY PROJECT	3	5	MAJ

Bachelor of Education In-Service Program Structure (Major)

LEVEL	YEAR	COURSES	CREDIT POINTS			
			SEM 1	SEM 2	TOTAL	
1	2004	SDTE 311 DRAWING PRACTICE 3	3		3	
		SDTE 331 METAL PRACTICE 3	3		3	
		SDTE 321 WOOD PRACTICE 3		3	3	
		SDTE 341 HANDICRAFT PRACTICE 3		3	3	
		SUBJECT CONTENT MINOR	3	3	6	
		SDTE 391 WORKSHOP TEACHING & ANALYSIS	3		3	
		SDTE 392 WORKSHOP MANAGEMENT	3		3	
		COMMUNICATION & TECHNOLOGY SKILLS	3		3	
		COMPULSORY EDUCATION STUDIES COURSE		3	3	
				15	15	30
2	2005	SDTE 421 WOOD PRACTICE 4	3		3	
		SDTE 431 METAL PRACTICE 4	3		3	
		SDTE 411 RAWING PRACTICE		3	3	
		SDTE 451 MOTOR MECHANICS		3	3	
		SUBJECT CONTENT MINOR	3	3	6	
		RESEARCH METHODS IN MAJOR SUBJECT	3		3	
		SDTE 482 DESIGN & TECHNOLOGY PROJECT		3	3	
		COMPULSORY EDUCATION STUDIES COURSE	3	3	6	
				15	15	30

Bachelor of Education In-Service Program Structure ((Minor)

YEAR ONE

<i>Sem</i>	<i>Code</i>	<i>Course Title</i>	<i>Cdt Pts</i>	<i>C/Hrs.</i>	<i>/Mnr</i>
1	SDTE 101	BASIC TECHNOLOGY 1A Module 1 Drawing Practice 1 Module 2 Wood Practice 1	3	5	Mnr
	SDTE 391	WORKSHOP TEACHING & ANALYSIS	3	5	Mnr
2	SDTE 102	BASIC TECHNOLOGY 1B Module 3 Metal Practice 1 Module 4 Handicraft Practice 1	3	5	Mnr
	SDTE 392	WORKSHOP MANAGEMENT	3	5	Mnr

YEAR TWO

1	SDTE 201	BASIC TECHNOLOGY 2A Module 1 Metal Practice 2 Module 2 Handicraft Practice 2	3	5	Mnr
2	SDTE 202	BASIC TECHNOLOGY 2B Module 3 Drawing Practice 2 Module 4 Wood Practice 2	3	5	Mnr

**DEPARTMENT OF HOME ECONOMICS, DESIGN & TECHNOLOGY
TECHNICAL & VOCATIONAL EDUCATION SECTION**

**SUMMARY OF COURSES
TECHNICAL EDUCATION AND BUSINESS STUDIES EDUCATION**

CODE	TITLE OF COURSE	SEMESTER	CREDIT POINTS
STVE 211	Teaching Subject (History and Development of Technical and Vocational Education in PNG).	1	3
STVE 291	Curriculum Development in Technical and Vocational Education using CBT Format.	1	3
EPG 110	Introduction to Education Psychology (Education)	1	3
ETE 491	Micro Teaching (Education)	1	3
ETE 120	Basic Teaching Skill and Methods (Education)	1	3
HLAN 114	English for Vocational Purposes (Language and Literature)	1	3
STVE 224	Teaching Subject (Philosophy of TVE)	2	3
STVE 225	Independent Workshop Project in TVE	2	3
STVE 292	Special Methods of Teaching TVE Subjects	2	3
EPG 311	Introduction to Guidance & Counseling (Education)	2	3
ETE 001	Educational Technology (Curriculum & Teaching)	2	1.5
SMAC 001	Information Technology (Maths Department)	2	1.5
ETE 492	Teaching Practice	2	6
OTHER RELEVANT COURSE			
SDT E 310	Introduction to Computer Graphics (Design and Technology).		

添付資料 ギョカ大学 2000～2002年支出と2003年予算

Summary Expenditure in the last 3 Years (2000 - 2002) and Budget for Year 2003

Unit : Kina

Item Code	Items	2000	2001	2002	2003 (budget)	2004 (projection)	2005 (projection)
111	Salaries & Allowance	53,511,670	5,323,646	5,457,627	6,697,000		
112	Wages	103,109	239,014	150,732	192,000		
113	Overtime	90,403	254,952	148,702	117,000	N/A	N/A
114	Leave Fares	343,235	497,168	527,349	500,000		
116	Contract Officers' Education Benefits	75,592	76,301	49,520	137,000		
110	Personnel Emoluments (1)	5,964,009	6,391,081	6,333,930	7,643,000	7,847,000	8,084,000
141	Retirement, Gratuity	1,166,620	1,379,152	1,426,344	1,998,000	2,264,000	2,332,000
142	Members Fees, Subscriptions & Contributions	-	-	-	150,000		
	Personnel Emoluments (2)	7,130,629	7,770,233	7,760,273	9,791,000	10,111,000	10,416,000
121	Travel & Subsistence Expenses	884,010	1,333,863	951,548	1,231,000		
122	Utilities	581,544	513,646	577,747	626,000		
123	Office Materials & Supplies	20,489	20,585	30,831	440,000		
124	Operational Materials & Supplies	1,826,468	2,172,868	1,979,049	2,850,000		
125	Transport & Fuel	74,024	142,555	131,223	142,000	N/A	N/A
126	Administrative Consultancy Fees	28,860	-	-	60,000		
127	Rental of Property	291,173	218,724	190,231	326,000		
128	Routine Maintenance Expenses	13,356	9,288	7,642	316,000		
135	Other Operational Expenses	460,576	137,653	99,128	100,000		
120	Goods & Services	4,180,505	4,549,184	3,967,398	6,091,000	6,752,000	7,011,000
144	Grant to Individuals (Research)	17,238	16,220	1,700			
221	Furniture & Office Equipment	180,025	164,340	63,031	387,000		
222	Purchase of Vehicles	391,533	140,273	-			
224	Plant Equipment & Machinery	267,630	216,291	99,515			
225	Construction & Renovation	1,894,229	2,112,472	17,087,476			
226	Substantial & Specific Maintenance	1,107,342	1,465,345	393,948	231,000		
201	Capital Expenditure	3,840,760	4,098,721	17,643,970	618,000	388,000	550,000
	支出(予算)合計	15,169,132	16,434,358	29,373,341	16,500,000	17,251,000	17,977,000
	内、給料・手当 (Personnel Emoluments (2))	7,130,629	7,770,233	7,760,273	9,791,000	10,111,000	10,416,000
	内、運営・維持管理費 (#120+#221+#222+#224+#226)	6,127,036	6,535,433	4,523,892	6,709,000	7,140,000	7,561,000
	内、PIPプロジェクト(#225)	1,894,229	2,112,472	17,087,476			

Note: *121 Travel includes cost of Students Practical Teaching.

*124 Operational materials includes Library Books & Periodicals and Student Catering Services.

*225 Construction and renovation is for the PIP projects.

Source: Data for Year 2000 - 2002 : Answer for the Questionnaire

Data for Year 2003 - 2005 : UOG 2003 Budget Vol. 1 (Oct 2002)

添付資料 ゴロカ大学 部門別2003年予算 Budget for Year 2003

Unit : Kina

	1. 学部 & School Liaison Office						2.	3.	4.	5.	6.
	教育学部	理学部	人文学部	Teaching Practice & School Liaison	図書館及び AV-印刷セクション	アドミ部門					
110 Personnel Emoluments (1)	5,010,000	1,094,000	2,360,000	1,502,000	54,000	395,000	1,142,000	458,000	155,000	483,000	7,643,000
141+142 Retirement, Gratuity, Members Fees	1,461,000	337,000	646,000	463,000	15,000	221,000	270,000	118,000	37,000	41,000	2,148,000
Personnel Emoluments (2)	6,471,000	1,431,000	3,006,000	1,965,000	69,000	616,000	1,412,000	576,000	192,000	524,000	9,791,000
121 Travel & Subsistence Expenses	748,000	8,000	20,000	20,000	700,000	15,000	240,000	210,000	14,000	4,000	1,231,000
122 Utilities *1	-	-	-	-	-	-	540,000	-	86,000	-	626,000
123 Office Materials & Supplies	86,000	7,000	31,000	20,000	28,000	160,000	150,000	20,000	20,000	4,000	440,000
124 Operational Materials & Supplies	170,000	30,000	90,000	30,000	20,000	360,000	130,000	100,000	1,840,000	250,000	2,850,000
125 Transport & Fuel	-	-	-	-	-	-	114,000	-	6,000	22,000	142,000
126 Administrative Consultancy Fees	-	-	-	-	-	-	60,000	-	-	-	60,000
127 Rental of Property	-	-	-	-	-	-	326,000	-	-	-	326,000
128 Routine Maintenance Expenses	9,000	3,000	3,000	3,000	-	20,000	40,000	7,000	20,000	220,000	316,000
135 Other Operational Expenses	25,000	6,000	9,000	10,000	-	25,000	50,000	-	-	-	100,000.00
120 Goods & Services	1,038,000	54,000	153,000	83,000	748,000	580,000	1,650,000	337,000	1,986,000	500,000	6,091,000
221 Furniture & Office Equipment	32,000	7,000	10,000	8,000	7,000	20,000	80,000	5,000	-	250,000	387,000
222 Purchase of Vehicles	-	-	-	-	-	-	-	-	-	-	-
224 Plant Equipment & Machinery	-	-	-	-	-	-	-	-	-	-	-
226 Substantial & Specific Maintenance	-	-	-	-	-	-	-	-	-	231,000	231,000
201 Capital Expenditure	32,000	7,000	10,000	8,000	7,000	20,000	80,000	5,000	-	481,000	618,000
部門別合計額	7,541,000	1,492,000	3,169,000	2,056,000	824,000	1,216,000	3,142,000	918,000	2,178,000	1,505,000	16,500,000
*2 内、人件費(給料・手当・年金) (#110+#141/142)	6,471,000	1,431,000	3,006,000	1,965,000	69,000	616,000	1,412,000	576,000	192,000	524,000	9,791,000
内、運営・維持管理費 (#120+#221+#222+#224+#226)	1,070,000	61,000	163,000	91,000	755,000	600,000	1,730,000	342,000	1,986,000	981,000	6,709,000

* 全学予算に占める割合

部門別合計額	46%	9%	12%	5%	7%	19%	6%	13%	9%	100%
内、人件費(給料・手当・年金) (#110+#141/142)	66%	15%	31%	20%	6%	14%	6%	2%	5%	100%
内、運営・維持管理費 (#120+#221+#222+#224+#226)	16%	1%	2%	1%	9%	26%	5%	30%	15%	100%

Note: #121 Travel includes cost of Students Practical Teaching.

#124 Operational materials includes Library Books & Periodicals and Student Catering Services.

*1/ 全学の光熱・通信費は#122 Utilityの項目で、全てアドミ部門に計上されている。

*2/ 運営費には、施設メンテ、機材購入などの資本費も含むが、実質的な運営コスト・維持管理コストの合計額といえる。

Source: UOG 2003 Budget Vol. 1 (Oct 2002)

添付資料

ゴロカ大学 光熱費、施設メンテナンス費の内訳
(2001年支出実績)

光熱費 (Utilities)

費目	Kina	千円
電話	166,350	6,155
郵便	13,199	488
Telex/Fax	8,827	327
ガス	1,059	39
水道、排水、ゴミ	74,450	2,755
電気	178,720	6,613
合計	442,605	16,376

Source: UOG - 2001 4th Quarter Financial Report, Feb.28, 2002

1 Kina = 37円で換算

施設メンテ費 (Substantial & Specific Maintenance)

費目	Kina	千円
建物改修	270,566	10,011
建物メンテ	1,579	58
配管工事	169,576	6,274
ドミトリーメンテ	165,731	6,132
清掃	166,372	6,156
スタッフハウスメンテ	309,563	11,454
家具等修理	60,746	2,248
Workshop機材	23,173	857
道路、排水・下水工事	145,413	5,380
スタッフハウス家具	31,023	1,148
電気工事	74,627	2,761
フェンス等メンテ	46,976	1,738
合計	1,465,345	54,218

Source: UOG - 2001 4th Quarter Financial Report, Feb.28, 2002

1 Kina = 37円で換算