





EASTERN AND SOUTHERN AFRICA HIGHER EDUCATION CENTERS OF EXCELLENCE PROJECT (ACE II)

CUSTOMIZED PROJECT OPERATIONAL MANUAL









TABLE OF CONTENT

Section1:INTRODUCTION	2
1.1. Background of the project	2
1.2. Why the customized Project Operational Manual?	2
1.3. Objectives and scope of UR-ACEs	
Section 2: DEFINITIONS OF DISBURSEMENT LINKED INDICATORS (DI	LIs)
AND DISBURSEMENT LINKEDRESULTS(DLRs)	5
Section 3: CENTER RESULT FRAMEWORK(fromY1-Y5)	9
Section4:PROCEDURES	16
4.1. Administrative procedure	16
4.1.1. Responsibilities and powers of staff	16
4.1.1.1. Role of the core implementing team	16
4.1.1.2. Role of UR-SPIU	
4.1.1.3. Role of the Principal of College	18
4.1.2. Committees	
4.1.3. Procurement processes	20
4.2. Financial proceedings	
4.2.1. Income management	
4.2.1.1. Collection account	_
4.2.1.2. Disbursement of funds	
4.2.2. Expense management	
4.2.3. Management of ACEs after financing period	
Section 5: ELIGIBLE FEESANDRATES	
5.1. For staff	
5.2. For students	
SECTION 6: PLANNING, MONITORINGANDEVALUATION	
6.1. Planning	
6.2. Monitoring and evaluation	
6.3. Reporting	
Section8:AUDITING	_
Section 9:ACADEMICPROCEDURES	
ADDENDTY: ACE STAFE DOLESANDDESDONSTRILITIES	

Section 1: INTRODUCTION

1.1. Background of the project

The African Centers of Excellence (ACEs) financed under the ACE II Project were selected through an open, objective, transparent, and merit-based competitive process which led to selection of 24 centers of excellence: 4 each in Ethiopia, Rwanda, Uganda and Tanzania, 3 in Kenya, 2 in Malawi and Zambia and 1 in Mozambique.

The ACE II operation will implement three components: (i) strengthening 24 higher education institutions into regional ACEs in Eastern and Southern Africa in a set of defined regional priority areas (US\$ 140 million); (ii) providing capacity building support to ACEs through regional activities (US\$3 million); and (iii) supporting coordination and management of the implementation of components (i) and (ii) (US\$5 million). The selected ACEs are expected to address specific development challenges facing the region in one of the five priority areas in the region – industry, agriculture, health, education and applied statistics – through graduate training (Master's, PhD, and short-term courses) and applied research, and to develop and strengthen partnerships and collaborations with other national, regional and international institutions and the private sector.

The ACE II project financing approach is results-based for Component 1 to incentivize the ACEs institutions to focus on delivering the agreed upon results. Disbursement will be based on the achievement of the agreed disbursement linked indicators (DLIs). For Components 2 and 3, the International Development Association (IDA) Grant disbursement will employ the traditional method - based on statements of expenditures (SOEs).

To measure the progress of the ACEs and the overall project, a Results Framework and a list of DLIs/disbursement linked results (DLRs) have been prepared and agreed upon by respective governments and their ACEs. Independent verifier(s) will be hired by IUCEA/[RFU] to verify the results achievement of the agreed DLIs/DLRs for all the ACEs in every six months during the project implementation. The project will only disburse funds to an ACE for its achieved results that have been verified by an independent verifier.

12. Why the customized Project Operational Manual?

In line with the project legal framework which includes the funding agreement between World Bank and Government of Rwanda, Financing and performing agreement between MINECOFIN and UR, Legal opinion issued by Government Attorney, and Effectiveness letter issued by World Bank; considering the Project Appraisal Document (PAD) and Project Operational Manual (POM); following the implementation plan of each ACE as well as the approved project proposal;

The National Steering Committee (NSC) in its session of 24th January 2017 whereby the NSC recommended *the development of Project Operational Manual adapted to the Rwandan Context to ease the implementation, monitoring and evaluation systems*.

Based on the mid-term review of ACE's and the management of the ACE'S requested the National Steering Committee (NSC) in its session of Thursday 30th January 2020.2020 to approve the review the revised Project Operational Manual adapted to the Rwandan Context to ease the implementation, monitoring and evaluation systems.

This recommendation intends to solve the issue of silence and/or incompatibility of key driving documents cited above with applied financial rules and regulations toward attraction of best candidates for studies as well as excellence in academia. Moreover, the nature of this project which is the "Investment Project Funds (IPF)" with Disbursement Linked Results (DLRs) requires the implementing agency to take necessary measures to ensure the efficient use of funds toward expected results.

It is in this regard that the Project Operational Manual which has been developed and approved for all 24 ACEs in collaboration by IUCEA and World Bank is here below customized to include some key elements that are specific to Rwandan context in general and management of public funds in particular.

In addition, this document is developed to facilitate implementers, at all levels, to avoid any misinterpretation of project document or misuse of public funds.

13. Objectives and scope of UR-ACEs

The Project Development Objective (PDO) for the ACE II is to strengthen selected Eastern and Southern African higher education institutions to deliver quality post-graduate education and build collaborative research capacity in the regional priority areas.

In respect to the project objects, ACEs aim at addressing some specific development challenges that are affecting the selected priority areas:

- 1) offering a research hub for postgraduate students, attracting international expertise and practitioners;
- 2) stimulating collaboration between academics, partners and stakeholders;
- 3) demonstrating the relevance of the center for innovation, job creation and economic prosperity and
- 4) securing resources to stimulate multidisciplinary collaborative international research projects.

14. Why ACE'S need to have a revised customized Project Operational Manual?

During previous years of ACEs implementation from October 2016 to December 2019, there were some challenges faced using the Customized POM that was developed in the beginning of the project implementation. For example there was no harmonization of amount given to students as subsistence allowances, Students Mission fee outside Rwanda, Lack of a streamlined and harmonized recruitment process for external experts; Lack of complete ACE's structure role of the core implementing team such as Communication and Marketing Specialist, Administrator for Postgraduate Studies and Research, Financial Management Specialist, internal audit specialist and ACEs Project Coordinator. The role of SPIU is not clearly defined in the current POM. Grievance and Redress Mechanism was not included in the current POM.

Indeed, based on the level at which the Centres are performing, it was deemed necessary to go through POM and identified key challenges that needed to be addressed and suggest some changes for the smooth operation of the project. Hencethe recommendation of the ACEs in the NSC held in October 2019 was to revise the POM for easy implementation and management of the ACEs.

Table 1: List of UR-ACEs

ACE NAME	LOCATION/College	Budget
Data Science	College of Business and	4.5 Million
	Economics(CBE)	USD
Energy for Sustainable Development	College of Science and	5.5 Million
	Technology (CST)	USD
Internet of Things	College of Science and	5.5 Million
	Technology(CST)	USD
Innovative Teaching and Learning	College of Education (CE)	4.5 Million
Mathematics and Science		USD

Section 2: DEFINITIONS OF DISBURSEMENT LINKED INDICATORS (DLIs) AND DISBURSEMENT LINKED RESULTS (DLRs)

DLI	Disbursement	DID / Dishuwsamant	Detail of the Disbursement			mount of the nt by ACE (in SD)
DLI	condition/definition	DLR/Disbursement	Data Science and ITLMS	IoT and ESD	Data Science and ITLMS	IoT and ESD
1. DLI #1: Institutional	Disbursed when all conditions for effectiveness outlined in the legal agreements signed between the ACE hosting government and the World Bank are met	DLR#1.1: Completion of Effectiveness Conditions			600,000	600,000
readiness	Disbursed when detailed implementation plan of ACE is approved by the ministry in charge of higher education as part of the Performance Agreement.	DLR#1.2: Development of the Project Implementation			500,000	500,000
		SUB TOTAL			1,100,000	1,100,000
Excellence in			1. If an ACE achieves 50 percent of this DLR in a given year, it will receive 50 percent of the allocation US\$75,000 for this DLR in that year, i.e., US\$37,500.	1. If an ACE achieves 50 percent of this DLR in a given year, it will receive 50 percent of the allocation US\$ 92,000 for this DLR in that year, i.e., US\$46,000.		
education and research capacity and development impact:	At least 50% and scalable up to 85% of implementation targets for the Year.	DLR#2.1 :Timely annual implementation of the plans	2. If an ACE achieves 85 percent of this DLR in a given year, it will receive 85 percent of the allocation US\$75,000 for this DLR in that year, i.e., US\$ 63, 750	2. If an ACE achieves 85 percent of this DLR in a given year, it will receive 85 percent of the allocationUS\$92,000 for this DLR in that year, i.e., US\$78,200	375,000.00	460,000.00
			3. If an ACE achieves beyond 85 percent of this DLR in a given year, it will receive 100	3. If an ACE achieves beyond 85 percent of this DLR in a given year, it will receive		

		percent of the allocation US\$ 75,000 for this DLR in that year i.e., US\$ 75,000.	100 percent of the allocation US\$92,000 for this DLR in that year i.e., US\$ 92,000.		
Approval of a student's PhD research proposal MSc's student have successfully completed at least one semester and the Short term students must participate in a program of atleast 40 hours in order to be eligible.	DLR #2.2: Newly enrolled students in the ACE of which at least 20% must be regional (African)			900,000	1,105,000
Master or PhD program is accredited by international or regional or national body .	DLR#2.3:450,000 \$ Accreditation of quality of education programs.	US\$ 75,000 for National accreditation US\$ 150,000 for Regional accreditation US\$ 300,000 for International accreditation	US\$ 75,000 for National accreditation US\$ 150,000 for Regional accreditation US\$ 300,000\$ for International accreditation	450,000	550,000
MoUs are signed and accompanied by signed proposals that outline at least a two-year collaboration and partnership work-program;	DLR#2.4: 150,000\$ Collaboration and partnerships for applied research and training	US\$ 30,000 per MoU with public institution US\$ 40,000 per MoU with industry	US\$ 30,000 per MoU with public institution US\$ 40,000 per MoU with industry	150,000	190,000
Paper is accepted by a peer-review journal or is an accepted peer-reviewed conference paper. Publications need to be related to the Centre's objectives and programs. To be counted as a regionally co-authored paper, at least one author should be fromthe ACE and at least one other author should be from a non-national African institution (including ACE partners)	DLR#2.5: 230,000\$: Paper Publication 10,000/ paper in journal with national author(s)	US\$ 30,000/paper in journal with regional author(s) US\$ 25,000/paper in journal with international author(s) US\$ 8,000 /paper conference paper with national author(s) US\$ 25,000/ conference paper with regional author(s) US\$ 20,000 /conference paper with international author(s)	US\$ 30,000/paper in journal with regional author(s) US\$ 25,000/paper in journal with international author(s) US\$ 8,000 /paper conference paper with national author(s) US\$ 25,000/ conference paper with regional author(s) US\$ 20,000 /conference paper with international author(s)	230,000	275,000

	The ACE must host a faculty or a PhD student from other institutions or send its faculty/PhD students to other institutions, for 2 weeks	DLR#2.6: 375,000 \$.Faculty and PhD student exchanges to promote regional research and teaching	US\$ 5,000 National exchange US\$ 10,000 Regional exchange 8,000\$ International exchange	US\$ 5,000 National exchange US\$ 10,000 Regional exchange 8,000\$ International exchange	375,000	460,000
	Externally generated revenue deposited into the ACE's account	DLR#2.7: External revenue generation	\$1 per externally generated from national sources \$2 per externally generated \$1 from regional and international sources	\$1 per externally generated from national sources \$2 per externally generated \$1 from regional and international sources	680,000	825,000
	ACE hosting University participates in the Partnership Of Applied Sciences, Engineering and Technology (PASET) benchmarking exercise.	DLR#2.8: Institution participating in benchmarking exercise:			80,000	95,000
		SUB TOTAL			3,240,000	3,960,000
		DLR#3.1: Timely		DLR#3.1: Timely		
	The DLR will be disbursed if the ACE submits timely withdrawal applications supported by interim unaudited financial reports showing how funds have been utilized.	Withdrawal Application supported by financial reporting on the ACE account for the period (4,000 per year)	Twice per a year (after six months)	Withdrawal Application supported by financial reporting on the ACE account for the period (11,000 per year)	20,000	55,000
DLR#3: Timely transparent and institutionally reviewed financial	ACE submits timely withdrawal applications supported by interim unaudited financial reports showing	Withdrawal Application supported by financial reporting on the ACE account for the period		Application supported by financial reporting on the ACE account for the period (11,000 per year) DLR#3.2: Functioning Audit Committee under the university council (11,000 per year)	20,000	55,000 55,000
transparent and institutionally reviewed	ACE submits timely withdrawal applications supported by interim unaudited financial reports showing how funds have been utilized. The DLR will be disbursed if the university under the university council has a functioning audit committee that will amongst other assignments follow up audit issues	Withdrawal Application supported by financial reporting on the ACE account for the period (4,000 per year) DLR#3.2: Functioning Audit Committee under the university council		Application supported by financial reporting on the ACE account for the period (11,000 per year) DLR#3.2: Functioning Audit Committee under the university council	·	,

	published on ACE websites to promote transparency and accountability.	(audit reports, interim financial reports, budgets and annual work plan are all web accessible) (4,000 per year)		(audit reports, interim financial reports, budgets and annual work plan are all web accessible) (11,000 per year)		
		SUB TOTAL			80,000	220,000
DLR#4: Timely	The DLR will be disbursed if the ACE submits a timely procurement audit report detailing procurement practices.	DLR# 4.1: Timely procurement audit report (8,000 per year)	Once per year (after the fiscal year)	DLR# 4.1: Timely procurement audit report (22,000 per year)	40,000.00	110,000.00
and audited procurement	The DLR will be disbursed based on the timely and satisfactory progress report on the ACE's procurement practices.	DLR#4.2: Timely and satisfactory procurement progress report (8,000 per year)	Twice per a year (after six months)	DLR#4.2: Timely and satisfactory procurement progress report (22,000 per year)	40,000	110,000
		SUB TOTAL			80,000	220,000
		GROSS			4,500,000	5,500,000

Notes:

- Total disbursement is limited to the overall amount of financing for each ACE, which was confirmed during negotiations.
- Disbursement amount is the capped disbursement amount per DLR for the project period of five years
- During implementation, each ACE will have flexibility to achieve education and research excellence through completing different combinations of the education and research results indicated in DLRs #2.2 2.7. Therefore, the amounts allocated to each DLR#2.2 2.7 can be adjusted downwards and upwards. But, no more than 50 percent of the original amount capped for each DLR#2.2 2.7 can be re-allocated. The financing allocated to DLR# 2.1 and DLR# 2.8 is not adjustable and remains fixed. All adjustments to the amount of financing per DLI and DLR, including to DLR#2.2 2.7, will have to be requested by the ACE, and approved by the National Steering Committee and the Bank. During the mid-term review, the DLI/DLR allocation amounts and undisbursed funds will be revisited.

Section 3: CENTER RESULT FRAMEWORK (from Y1-Y5)

1. ACE Data Science

Indicator		Y1	Y2	Y3	Y4	Y5
		Target	Target	Target	Target	Target
1. Regional students enrolled in ACEs: (i)	Masters (Total)	6	6	6	6	6
Masters (No. of Female) (ii) PhD (No. of	Masters (Female)	2	2	2	2	2
female)	PhD (Total)	2	2	2	2	2
	PhD (Female)	1	0	1	1	0
	Short-term courses (Total)	7	7	7	7	7
2. Students (national and regional)	Masters (Total)	20	20	20	20	20
enrolled in ACEs: (i) Masters (No. of		7	7	7	7	7
female) (ii) PhD (No. of female)	PhD (Total)	8	8	8	8	8
	PhD (Female)	3	2	3	3	2
	Short-term courses (Total)	30	30	30	30	30
3. MOUs on partnerships for collaboration in and training entered into by the ACEs	n applied research	5	1	1	1	1
4. Accredited education programs offered	Total	6	1	1	0	0
by the ACEs	National	6	0	0	0	0
	Regional	0	0	1	0	0
	International	0	1	0	0	0
	Short-term Courses	0	0	0	0	0
5. Direct Project Beneficiaries	Total	58	58	58	58	58
	Female (%)	69%	66%	69%	69%	66%

1. Faculty and PhD students exchanges to	Total	2	14	14	14	14
promote research and teaching (No. of	Female	1	4	4	4	4
female)						
2. Amount of externally generated revenue	by the ACEs	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
3. Internationally recognized research	Total	6	8	8	9	9
publications in disciplines supported by	No. co-authored	2	2	2	3	3
the ACE Program and with regional	with regional					
coauthors	collaborators					
4. No. of institutions hosting ACEs participa	ting in the PASET	0	0	0	0	0
benchmarking exercise						
1. Events that foster partnerships between	ACE and private	2	2	2	2	2
sector/industry	·					
1. Knowledge sharing events with ACEs, pa	rtner institutions,	1	1	1	1	1
academia and diaspora						
2. Reports by ACEs on Beneficiary Satisfacti	on	1	1	1	1	1
3. Timely verification of ACE achievement o	f DLIs	2	2	2	2	2
4. Biannual reporting on M&E of the ACEs		2	2	2	2	2

2. ACE Energy for Sustainable Development

		Y1	Y2	Y3	Y4	Y5
Indicators		Target	Target	Target	Target	Target
1. Regional students enrolled in ACEs: (i)	Masters (Total)	9	9	9	9	0
Masters (No. of Female) (ii) PhD (No. of	Masters (Female)	3	3	3	2	0
female)	PhD (Total)	3	2	2	2	2
	PhD (Female)	2	1	1	1	1
	Short-term courses (Total)	0	5	5	5	5
2. Students (national and regional) enrolled in	Masters (Total)	30	30	30	30	0
ACEs: (i) Masters (No. of female) (ii) PhD (No.	Masters (Female)	9	9	9	8	0
of female)	PhD (Total)	8	8	8	8	8
	PhD (Female)	4	3	3	3	2
	Short-term courses (Total)	0	20	20	20	20
3. MOUs on partnerships for collaboration in application in training entered into by the ACEs	lied research and	5	0	0	0	0
4. Accredited education programs offered by	Total	6	0	0	0	0
the ACEs	National	6	0	0	0	0
	Regional	0	0	0	0	0
	International	0	1	0	0	0
	Short-term Courses	0	0	0	0	0
5. Direct Project Beneficiaries	Total	40	58	58	58	26
	Female (%)	32%	21%	21%	19%	8%
1. Faculty and PhD students exchanges to	Total	2	15	15	15	11
promote research and teaching (No. of female)	Female	1	5	5	5	3
2. Amount of externally generated revenue by th	e ACEs	\$100,000	\$150,000	\$100,000	\$150,000	\$100,000
3. Internationally recognized research	Total	5	6	6	7	6

publications in disciplines supported by the ACE Program and with regional coauthors No. co-authored with regional collaborators	2	4	4	4	4
4. No. of institutions hosting ACEs participating in the PASET benchmarking exercise	0	0	1	0	1
1. Events that foster partnerships between ACE and private sector/industry	0	1	0	1	0
1. Knowledge sharing events with ACEs, partner institutions, academia and diaspora	0	1	1	0	1
2. Reports by ACEs on Beneficiary Satisfaction		1	1	1	1
3. Timely verification of ACE achievement of DLIs	2	2	2	2	2
4. Biannual reporting on M&E of the ACEs	2	2	2	2	2

3. ACE Internet of Things

To disabelee		Y1	Y2	Y3	Y4	Y5
Indicators		Target	Target	Target	Target	Target
	Masters					
	(Total)	0	9	9	9	9
	Masters					
1 Designal students enrolled in ACEs, (i)	(Female)	0	5	5	5	5
1. Regional students enrolled in ACEs: (i)	PhD (Total)	0	6	2	2	2
Masters (No. of Female) (ii) PhD (No. of female)	PhD					
Terriale)	(Female)	0	3	1	1	1
	Short-term					
	courses					
	(Total)	0	12	12	12	12
2. Students (national and regional) enrolled in	Masters					
ACEs: (i) Masters (No. of female) (ii) PhD (No.	(Total)	0	30	30	30	30
of female)	Masters	0	15	15	15	15

	(Female)					
	PhD (Total)	0	14	4	4	4
	PhD					
	(Female)	0	7	2	2	2
	Short-term					
	courses					
	(Total)	0	30	30	30	30
3. MOUs on partnerships for collaboration in app	lied research					
and training entered into by the ACEs	-	10	0	0	0	0
	Total	4	1	1	0	0
	National	4	0	0	0	0
4. Accredited education programs offered by	Regional	0	1	0	0	0
the ACEs	International	0	0	1	0	0
	Short-term					
	Courses	0	0	0	0	0
5. Direct Project Beneficiaries	Total	12	116	106	106	106
3. Direct Project Beneficialies	Female (%)	0	32%	30%	30%	16%
1. Faculty and PhD students exchanges to	Total	0	2	4	4	2
promote research and teaching (No. of female)	Female	0	0	2	2	0
2. Amount of externally generated revenue by the	ne ACEs	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
	Total	0	10	16	16	12
3. Internationally recognized research publications in disciplines supported by the ACE Program and with regional coauthors	No. co- authored with regional collaborators	0	4	6	6	6
4. No. of institutions hosting ACEs participating i benchmarking exercise	n the PASET	0	1	1	1	1

1. Events that foster partnerships between ACE and private sector/industry	1	1	1	1	1
1. Knowledge sharing events with ACEs, partner institutions,					
academia and diaspora	1	1	1	1	1
2. Reports by ACEs on Beneficiary Satisfaction	0	1	1	1	1
3. Timely verification of ACE achievement of DLIs	2	2	2	2	2
4. Biannual reporting on M&E of the ACEs	2	2	2	2	2

4. ACE Innovative Teaching and Learning Mathematics and Science

Indictor		Y1	Y2	Y3	Y4	Y5
Indictor		Target	Target	Target	Target	Target
1. Regional students enrolled in ACEs: (i)	Masters (Total)	6	6	6	6	6
	Masters (Female)	2	2	2	2	2
	PhD (Total)	3	3	3	3	3
Masters (No. of Female) (ii) PhD (No. of female)	PhD (Female)	1	1	1	1	1
Terriale)	Short-term courses					
	(Total)	9	9	9	9	0
	Masters (Total)	20	20	20	20	0
2 Chudonts (national and regional) appelled	Masters (Female)	6	6	6	6	0
2. Students (national and regional) enrolled in ACEs: (i) Masters (No. of female) (ii)	PhD (Total)	8	8	8	8	8
PhD (No. of female)	PhD (Female)	3	3	3	3	3
The (No. of Temale)	Short-term courses (Total)	30	30	30	30	0
3. MOUs on partnerships for collaboration in	applied research and					
training entered into by the ACEs		2	1	1	1	
	Total	0	4	0	0	0
4. Accredited education programs offered	National	0	2	0	0	0
by the ACEs	Regional	0	0	0	0	0
	International	0	0	0	0	0

	Short-term Courses	0	2	0	0	0
F. Direct Project Popoficiaries	Total	58	58	58	58	58
5. Direct Project Beneficiaries	Female (%)	32%	32%	32%	32%	32%
1. Faculty and PhD students exchanges to	Total	5	8	10	10	10
promote research and teaching (No. of female)	Female	2	2	3	3	3
2. Amount of externally generated revenue by	by the ACEs	\$50,000	\$100,000	\$100,000	\$100,000	\$150,000
2 Internationally recognized recearch	Total	5	5	10	10	10
3. Internationally recognized research publications in disciplines supported by the ACE Program and with regional coauthors	No. co-authored with regional collaborators	2	2	4	4	4
4. No. of institutions hosting ACEs participati benchmarking exercise	ng in the PASET	0	1	0	0	0
1. Events that foster partnerships between ACE and private sector/industry		1	1	1	1	0
1. Knowledge sharing events with ACEs, partner institutions, academia and diaspora		0	1	1	1	0
2. Reports by ACEs on Beneficiary Satisfaction			1	1	1	1
3. Timely verification of ACE achievement of	DLIs	2	2	2	2	2
4. Biannual reporting on M&E of the ACEs		2	2	2	2	2

Section 4: PROCEDURES

This part describes the pathways of management of the project from the implementing team to other stakeholders and the role of each. Administrative and academic procedures are described to avoid any misinterpretation as well as providing official references for further decision making.

4.1. Administrative procedure

ACEs are operating in a complex administration which need to be well defined and understood by each and every stakeholder. Indeed, there is a core team in charge of implementation of activities and other supporting teams on both administration and finance as well as academic side.

The implementation of the project is led by the center Director who is officially appointed by the Vice Chancellor and is held accountable for the success and failure of the center.

The administrative support is led by Single Projects Implementation Unit (SPIU) where all financial transactions and administrative issues are channeled and handled.

The academic support is led by the Principal of the College hosting the concerned ACE. The Principal is responsible for the academic success of these ACEs.

4.1.1. Responsibilities and powers of staff

4.1.1.1. Role of the core implementing team

The core implementing team is composed as per approved structure of each ACE. However, based on the nature of the project and its scope the minimum membership should include:

- 1. Director
- 2. Deputy Director
- Head of Research or Head of PhD studies
- 4. Head of teaching or Head of Masters programs
- 5. Administrative staff that may include a Center Administrator, IT Officer, M&E Officer, Accountant and Procurement Officer.
- 6. Financial Management Specialist
- 7. Communication and Marketing Specialist
- 8. ACEs Coordinator

Except the Administrative staff who are contractual staff as recruited for this specific purpose, other members of the implementing team are chosen among the University faculty unless specified otherwise in the project implementation plan. The role of each member is described in the appendix attached.

4.1.1.2. Role of UR-SPIU

The role of UR-SPIU is mainly to facilitate financial and administrative issues of ACEs. There are Four (4) shared staff dedicated to ACEs' activities namely: Communication Specialist, procurement officer and M&E officer shared by Two ACE's, The Financial Management Specialist will be responsible to supervise the Accountants and to consolidate ACE's financial statements and other financial related matters. Apart from these staff, the whole team at SPIU is mandated to facilitate in the implementation of ACEs' planned activities and is accountable for finance, procurement, HR issues among others. The role of the SPIU is summarized below:

Coordination and administration support to ACEs

- Provide overall coordination and administration support to ACEs including facilitating the recruitment processes, contract preparation and co-signing administrative staff contracts;
- Coordination of Steering Committee Meetings; World Bank Supervision missions; as well as internal and external audits;
- Ensure recommendations of the National Steering Committees; World Bank supervision missions; and Audits are implemented;
- Ensure ACE's compliance with World Bank financing agreement.

FINANCE

- Facilitate budgeting sessions
- Coordinate the preparation of financial statements;
- Provide guidance and technical support to the ACE Accountants on proper management and accountability for the financial resources of the ACE II;
- Verify and approve payments and ensure payments are done on a timely manner;
- Ensure the quality and timely submission of ACE Financial reports both to MINEDOCFIN and World Bank;
- Ensure RSSB contributions, PAYE, VAT, and withholding taxes declarations for ACEs done on time;

Ensure accountability, compliance, value for money and achieve the project unqualified audit report; Keep financial records and file for audit purposes as required.

• Follow up the implementation of Audit recommendations.

PROCUREMENT

- Participate and guide ACE teams in preparation of project procurement plans;
- Ensure ACEs annual procurement plan is consolidated in UR's consolidation plan on time;
- Advise and assist the ACE Directors in preparing Technical Specifications of tenders;
- Management of the procurement processes by ensuring that all steps are

properly undertaken;

- Take part in elaboration of procurement plan and ensure it is published on website of ACEs after the approval by World Bank Procurement Specialists;
- Verify and approve purchase orders on behalf of ACEs;
- Facilitate project procurement audits
- Prepare purchase orders for procurement requests initiated by the center Director
- Report on procurement progress as required by the funder and national regulations

M&E

- Contribute in the planning sessions toward development of initial targets
- Facilitate in gathering and analysis of projected related data
- Report project progress to higher authorities as required by the loan agreement

HR

- Facilitate in the recruitment processes;
- Lead the contract preparation process
- Handle payroll related issues (salaries, taxes, Contributions to RSSB, etc.) of contractual staff of the project

AUDIT

- Conduct internal audit sessions in collaboration with university internal audit unit:
- Facilitate audit sessions by external auditors as required by the funder.
- Follow up the implementation of Audit recommendations

LEGAL ISSUES

- Review of Agreements/MoUs/Contract on behalf of ACEs.
- Follow up any legal documents and cases for ACE's

4.1.1.3. Role of the Principal of College

The core role of the Principal is to oversee the quality of academic programs implemented by the concerned ACE as well as the performance of the core implementing team.

Responsibilities	Powers
 Lead approval process of the academic programs to be offered by ACEs Avail space for ACE activities Oversee the implementation of ACE plans Advocate for ACE in higher levels and other partners 	 Appoint and dismiss implementing team members, except the Director Facilitate in the recruitment of faculty Contract/Agreement on behalf of ACE, external academic service providers

4.1.2. Committees

No	Committee	Scope of the committee
1	National Steering Committee	Membership
		 Terms of Reference Review and approve annual work program Review and approve DLI results Oversees audits Monitor the overall implementation progress and promote overall good practice Meeting calendar The NSC will meet twice a year. Meetings are convened by the chair and invitations

[Туре	here]	 sent out at least two weeks in advance. Extraordinary meeting(s) may be called at the request of the Cha
2	Management Committee	Membership The management committee is composed of all members of team and is chaired by the center Director
		 ToR Review appointment or approval of employment contracts Review activity progress reports as opposed to action plans
		Meeting Calendar • Once per month
3	Admission and training committee	Membership The committee is composed of five faculty members appointed Director and chaired by the Head of teaching
		 Assess the applications to a given program, Plan for teaching activities Plan, assess and approve the exchange programs Evaluate the academic results toward a given award Meeting Calendar
4	Research	Twice per Year and each time, the ACE's deem necessary. Membership The remaining is a second of five feachts are a second of the feachts are a second of the feachts.
	Committee	 The committee is composed of five faculty members appointed Director and chaired by the Head of Research
		 Assess the applications for support of research related activities (publications,) Plan for research related activities
		Meeting Calendar Twice a year and each time, the management of the Center deen

Grievance and Redress Mechanism Committee (GRM)

Membership: The committee is composed of at least 5 members: Focal Chairperson, Secretary and 3 members selected among the staff whose in line with the Centre activities and some stakeholder(s) (students repres

Processes:

- I. Procedure for filing the formal/informal complaint/grievance
- 1. Complaint should be made to Grievance Redress Mechanism Committe
- 2. Complaint may be reported orally or by filling online form available a by writing and submit it in suggestion box available at the Center. I oral, the GRMC member who received the complaint will convert it in and authenticate it with the complainant's signature.
 - 3. Upon receipt of complaint by any member of GRMC, the member sl the Chairperson who will call for a meeting of GRMC to discuss the issu
 - II. Process for addressing the Grievance:
 - 1. Upon receipt of complaint, the Secretary of the Committee acknowledge the receipt of grievance.
 - 2. The Chairperson, in consultation with the secretary, will call for GRMC. The guorum for the meeting is three members.
- If the complaint was made orally, the Committee may request for a wr the complainant or the person/representative from the complainants' g
 - 3. Final decision of the GRMC has to be communicated to the compleworking days from the receipt of the complaint.
 - 4. The Secretary of the Committee will communicate the decision to via email or other convenient way with a copy to the Director of the Co
 - 5. The Secretary will maintain an updated record of all complaints, closure status.
 - 6. In case the complaint was made against a member of the GRM member will be excluded from any proceedings until the case is closed

Meeting Calendar: The GRM Committee should convene once per quar the GRM chairperson deems it necessary.

4.1.3. Procurement processes

The procurement of goods, works and consultancies services are governed by the Rwandan Public Procurement law and related regulations. However, the procurement of non-consultancy services like academic services are governed by the University policies governing external and visiting faculty and any other academic guideline.

4.1.3 Hiring academic staff

The Centre to set committee that will recommend to the Principal expert lecturer to be hired.

4.2. Financial proceedings

The financial proceedings are governed by the Rwandan law on financial management and related regulations.

4.2.1. Income management

All incomes are recorded according to the standardized accounting systems. Funds are collected through two different bank accounts:

- Specific account: Is the account opened in national bank (BNR) specifically to receive the money disbursed from World Bank for financing ACE project or any other transfer of funds that may occur from project realization.
- Any other Generated Grants would be deposited and expended on the UR-SPIU Account.
- Collection account: Is the account to be opened in a given commercial bank designed to receive money from different beneficiaries (students, partners, etc.)

4.2.1.1. Collection account

For the sustainability of the ACEs, it is expected that they will generate more funds to build their financial sustainability. Indeed, the project will match US\$1 for every US\$1 raised from national sources, and US\$2 for every US\$1 raised from regional and international sources. The project also includes an indicator in the Results Framework, externally generated revenue, to monitor progress of fundraising made by the ACEs under the project.

It is in this framework that there is a need of having specific collection account, which is different from the disbursement account (which is specific to the funds disbursed from World Bank).

In order to make operations easier, the collection account shall be specific to each center and be opened in one of national commercial banks. This account will be exclusively dedicated to collection of funds out of project funds. These funds shall include, but not limited to, school fees of students belonging to the concerned center, administration fees, short-courses' fees, tuition fees from private candidates, fundraised funds, etc.

[Type here]

To spend funds on the collection accounts, will require the approval of the University Chief Budget Manager (DVC FINANCE).

Any other Generated Grants would be deposited and expended on the UR-SPIU Account.

4.2.1.2. Disbursement of funds

1. For each subsequent yearly disbursement (July 2016–2020):

- (a) The ACE will compile the achieved results and certify that it has the required background information in its archives to document the achievements of the results. The archives will be kept for a period of ten years.
- (b) The ACE, ACE country focal point and the Ministry in charge of higher education through the National Steering Committee will review the results and submit information regarding the achievement of the project results for that year (Year 1-4). The information to submit consists of two parts: (i) ACE results in the form of the DLIs, and (ii) Expenditures in the eligible expenditure program (EEP).
- (c) RFU will, together with the World Bank, verify achievements, sometimes on a sample basis, and the World Bank will disburse the agreed funds for that year's results to the project account through the MoF.
- (d) World Bank and other Donors will transfer the funds using the regular budget process of the ACE account at the university level.

4.2.2. Expense management

All expenses are recorded and managed according to the Government of Rwanda Public Financial Management Manual as specified in the Government of Rwanda financial management law and the Government of Rwanda Public Financial Operations manual.

4.2.3. Management of ACEs after financing period

After the funding period, as set in PAD, each center shall continue to operate and generate more funds as expected. However, the administration issues shall be transferred from SPIU to the respective Colleges. With respect to the mandate of SPIU, any other third party funds that may be generated by the center during or after the funding period will also be managed by SPIU.

Section 5: ELIGIBLE FEES AND RATES

The fees for supporting in delivery of the project are defined according to the availability of funds and acceptable limit ranges that allow the smooth implementation of project activities. Fees described below are those to be expended by the center for a given purpose linked with the project scope.

5.1. For staff

The staff are classified into two categories according to the origin of the staff:

- Resident staff are both faculty and administrative staff of the center
- Visiting experts are those invited from out of the center. These are also subclassified into two categories:
 - Local are those coming from national institutions rather than UR
 - o Regional and international are those coming from any abroad institution.

The table below shows:

Type of fee	Description	Rate (unit cost) in USD	Measurement unit	Payment basis
Service compensation	Fees paid to any external faculty/professional for a given academic service	400 USD per day	Number of days spent in delivering either academic module, thesis review or professional short-course	Signed contract ¹ between the faculty and the Principal of College hosting the ACE
		400 USD per day	Number of days Will not exceed 7 working days including arrival and departure.	Invitation letter by the Principal of College hosting the ACE
		40 USD Per answer booklet	Number of examination answer booklets remarked	Appointment letter by the Principal of College hosting the ACE

¹The contract will indicate the payment modalities and deliverables

Facilitation for PhD and Masters supervision	Fees paid to any faculty member either resident or nonresident staff, to facilitate him/her in the supervision or cosupervision of one ACE PhD excluding travels, accommodation, and related expenses. Research incentive paid on the beneficiary account of the supervisor Contract will determine schedule of Payment.	2,000 USD taxes exclusive for PhD. 1,000 USD taxes exclusive for Masters.	Number of thesis supervised	Contract ² between the supervisor/co-supervisor and the Principal of College hosting the ACE
Daily subsistence allowance	Fees paid to any international or regional academic staff or expert invited to support in implementation of activities of ACE through formal partnership, or agreement. This fee stands for coverage of incountry stay including accommodation and Other expenses.	285 USD per day of stay in Rwanda	Number of days spent in ACE	Invitation letter signed by Principal of College hosting ACE Formal Partnership documents.
Communication Allowance	Airtime for staff to facilitate in and out country calls	Director: Rwf 100,000 Deputy	Paid monthly	Monthly requisition form

²

Contract will determine schedule of Payment.

		Director: 80,000 Rwf Head of programs (each): 70,000 Administrative staff (each) ³ : Rwf 30,000		
Internet fee		Director, Deputy Director and Heads of Units and IT officer: 4G monthly subscription of internet connectivityIn regard to other staff Management of the ACE will decide for who should use internet modem and its amount per month.	Paid monthly	Monthly requisition form and Minutes approving the staff to receive Internet.
Proposal review	Fees for review of applications for grant. Appointed Committee to recommend the staff to do proposal review and the principal will approve the Appointment.	300 USD per proposal	Number of proposals reviewed	Appointment letter by the Principal of College hosting the ACE

Note:

- The management committee of each center may take appropriate action for other relevant staff to get communication allowances and/or internet fee.
- Other fees like mission allowance, transports which are not stated above are determined by relevant laws and regulations applied in Rwanda.

⁴African students

5.2. For students

Type of fee	Description	Rate (unit cost) in USD	Measurement unit	Payment conditions
1. Tuition fee	Are fees paid to the University to cover academic cost of a given program	As determined annually by the University of Rwanda	Number of students supported	Approved list of candidates supported
2. Student Stipend				
2.1. PhD students				
a. Regional ⁴ students	Fees given to selected regional students to cover the living expenses during the study period.	USD 500per month for Male students. An incentive of \$50will be added for female students	in ACE	List of enrolled students
b. Local student	Fees given to selected national to facilitate their stay in study station.	400\$ per month for male students and 450\$ per month for female students.	Number of months spent in ACE	Sponsorship letter signed by the ACE Director
2.2. Masters students				
a. Regional students	Fees given to selected regional students to facilitate their stay in Rwanda	300 USD per month for Male students and 350 USD Per month for female students	Number of months spent in ACE	List of enrolled students

⁴African students

b. Local student	Fees given to	250 USD per	Number of	Sponsorship
	selected	month for	months spent	letter signed
	national to	male students	in ACE	by the ACE
	Facilitate their	and 300 USD		Director
	stay in study	per month for		
	station if	female		
	Different from	students.		
	the leaving			
	place			
3. Research fee	Fee to support	Max 5,000	Each thesis	List of
	student	USD for PhD		selected
	research_related	students and		projects
	Activities	Max 1500		Estimat
		USD for		ed
		Masters		Budget.
		students		

⁴African students

4. In-course fees for	field visits and	exchange	
a. Local within Kigali/working place ⁵	Contingency fee to cover lunch and transport within Kigali	Apply UR Fees structure for local field visit.	
b. Local out of Kigali/ working place	Accommodation and contingence fees	Apply UR Fees structure for local field visit.	
c. Outside Rwanda	Fees to cover contingencies and accommodation	Apply UR Fees structure for outside field visit amounting to 140\$/day. This amount will be paid for a period not exceeding 21 days. In case the student exceeds 21 days but not exceeding 60 days the student will be given 70% of UR students' fees structure abroad. In case all costs are covered by the third party, the student will be given 60% of the Government of Rwanda contingency fees per day.	Acceptance letter of hosting institution and letter of approval of ACE

⁵ The working place is defined as the District where the ACE is based if not in Kigali.

SECTION 6: PLANNING, MONITORING AND EVALUATION

6.1. Planning

Planning of activities is done by participatory approach with full participation of ACE staff and stakeholders as well as partners. The M&E and procurement officers of ACE are responsible of compilation and drafting the plan to be approved by the National Steering committee before being submitted to the concerned authorities.

Plan	Final destination	Submission deadline
Annual action plan	IUCEA with copy to World Bank	31st March every year
Budget and MTEF ⁶	IUCEA with copy to World Bank	31st March every year
Procurement plan	IUCEA with copy to World Bank	31st March every year

6.2. Monitoring and evaluation

In line with the project objectives, the M&E will cover three aspects: Performance; Compliance; and Impact monitoring.

- a. **Performance** monitoring will determine whether activities and processes are being executed as per agreed schedules and data gathered will help identify implementation challenges and improve project_management.
- b. **Compliance** is expected to be assessed based on whether grant conditions and project implementation guidelines including procurement and fiduciary conditions are being followed.
- c. **Impact** is expected to be measured based on the extent to which the Project contributes to the achievement of the project development goals.

M E is expected to be carried out at all levels of the Project implementation, which cascades one into the other. There are basically three cascading levels relevant for planning, managing and measuring the Projects progress:

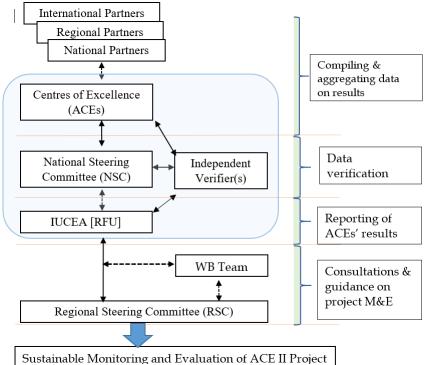
- (i)The overarching project level involves compiling and aggregating all data provided by each ACE, and planning, managing and reporting of ACE-overarching results-which is under the responsibility of IUCEA/[RFU];
- (ii)The project level for each of the separate ACEs —which is under the responsibility of each ACE (which will also report to the RFU), including the data provided to them by their Partner Institutions;
- (iii) the ACEs' Partner Institution Level, which is planning, managing and measuring relevant data for the ACE- level Results Frameworks (RFs)—which is under the responsibility of each Partner Institution(PI), providing the data to their respective ACEs. The data consolidated by ACEs shall be verified by the verification



agency/firm which will discuss its findings with the ACEs before submission of the report to $\ensuremath{\mathsf{RFU}}$

⁶ Mid Term Expenditure Framework

Figure 2: A flow chart of M&E process



At the ACE level, the tools for M&E includes: (a) reports on institutional progress, internal quality, and efficiency audit; (b) reports on results that are verified by an external independent verifier for disbursements and performance audits; and (c) direct stakeholder feedback.

To ensure that the project implementation is fast-tracked, all data related to project activities must be disaggregated and compiled in database within the center's office while related documentations are filed in a proper way to facilitate access at any request.

6.3. Reporting

All reports to be produced shall reflect the reality and contain the updated information on the project status. The table below summarizes the kinds of report that will be produced.

Type of re	port	Destination		Deadline	Templates	
Progress re	port	MINECOFIN		15 day after the	Provided	by
				end of each quarter	MINECOFIN	
Bi-annual	reports:	IUCEA/RFU	and	45day after the end	Provided	by
financial,	activities	World Bank		of six months of a	World Bank	and
and procure	ement			given financial	IUCEA/RFU	
progress re	ports			year		

Results achieved by the ACEs will be verified independently for disbursement. Independent verifier(s) hired by IUCEA/[RFU] is expected to verify the results achievement of the agreed DLIs/DLRs for all the ACEs in every six months during the project implementation. During the mid-term review of the project implementation, the DLIs/DLRs and their allocation amounts as well as any issues related to undisbursed funds will be re-examined.

Section 7: MARKETING AND COMMUNICATION STRATEGIES

Considering the impact and expectations from the ACEs, investing into marketing and communication is vital in order to ensure the large diffusion of centers' activities and attraction of the best customers.

Marketing and Communications will enhance and protects UR/ACEs institutional reputation, advances and strengthens the University's brand, encourages community engagement, and reinforces the University's relevance in the lives of key target audiences, including current and prospective students, alumni, partners, friends, faculty and staff.

Regardless the size of centers, a strong set of promotional strategies will help to position them in a favorable light, while opening the doors for future communication. Specifically, Marketing and Communication office of UR in close collaboration with SPIU will provide a wide range of services, including:

- Articulate and manage the University's brand, key messages and visual identity, setting standards, and supporting with guidelines and services, to ensure they are delivered consistently across all media, to all markets and audiences;
- Generate greater media coverage of UR-ACEs, its staff and its students locally, nationally and internationally through a refreshed Media strategy, and develop stronger relationships with the media and other stakeholders;
- Promote the impact and value of research and knowledge services, generating public understanding of UR-ACEs research and its contribution to the society focusing mostly on research priorities;
- Manage the UR-ACEs public presence and communicate with the local community, through media relations and public events.

In pursuit of its mission, the UR and SPIU Marketing and Communication units will assist in producing content that upholds the brand integrity of UR-ACEs.

Below are some of the promotional techniques that will be used:

8.1. Use of Radio and TV

Despite the fact that many ACEs stakeholders spend greater amounts of time surfing the internet and using mobile devices than ever before, TV and radio marketing still dominating marketing and communication industries in Rwanda. In fact, TV advertising displays greater success with key performance indicators (KPIs) than any media source.

8.1. Use of Social Media,

Social media websites such as Facebook, Twitter, and LinkedIn etc. offer anyone a way to promote products and services in a more relaxed environment. This is direct marketing at its best. Social networks connect with a world of potential customers that can view the center from a different perspective is highlighted.

To implement this strategy, each center will have to open dynamic social media accounts and update them on regular basis. Moreover, the center will facilitate the staff in charge of this strategy to access and use the latest relevant media to reach the targeted group.

8.2. Contests

The idea is to promote the center's brand and put its logo and name in front of the public rather than make money through a hard-sell campaign. People like to win prizes. Thus, sponsoring contests can bring attention to the center's services and products without its overtness.

8.3. Branded Promotional Gifts

Giving away functional branded gifts to contesters, best customers and stakeholders can be a more effective promotional move than handing out simple business cards. They can include flash disk, ink pen, key holders, among others. These are gifts you can give your customers that they may use, which keep your business in plain sight rather than in the trash or in a drawer with other business cards the customer may not look at.

8.4. Customer Appreciation Events: Open days

ACEs will have to organize open-day events with free refreshments and interactions that would draw customers into the real image of the centers. Emphasis on the appreciation part of the event, is an effective way to draw not only current customers but also potential customers through the door. Strategies to organize more attractive and less expensive events will be deployed by Centres. To be more effective, a center may organize such event in collaboration with its partner whether national or regional.

8.5. Customer satisfaction Surveys

Conducting a customer satisfaction survey annually will allow each center to know the satisfaction level of different customers in order to improve the quality of service delivered and attract more customers.

Section 8: AUDITING

Internal Control Arrangements:

The management of the University is responsible for the effectiveness of the system of internal controls. This responsibility will include making sure that: (i) project funds are utilized efficiently, economically and only for the intended purposes; (ii) financial reports generated by the accounting system are prepared on time, accurately and that they are reliable; and (iii) the assets acquired with project funds are safeguarded from misuse, defalcation, conversion and other forms of misappropriation.

- 1. The system of internal controls in operation follows those defined in the FMM of all the implementing entities. The internal control systems will be enhanced with project specific control systems documented in the Project Implementation Manual/Plan.
- 2. Internal Audit function: Having a functional internal audit department that conducts audits on this project based on a risk based approach is a disbursement-linked result. The UR's Internal audit unit in collaboration with SPIU will include in their work plans audits to be done on the project based on a risk based approach.
- 3. UR will develop audit manuals with good practices issued by the Institute of Internal Auditors; acquire internal audit software to be more efficient and effective when conducting audits; train staff in performance auditing to strengthening value for money auditing; and train in risk based auditing to strengthen internal audit skills. SPIU staff in charge of audit will have to ensure that audit of ACEs is done at least on a semi- annual basis if the risk is low or moderate or on a quarterly basis if the risk is high or substantial.

Audit committee: The committee is essential to ensure that audit issues are brought to high level attention and addressed. The committee should be independent, and made up of non- executive members, including University Councilmembers.

4. Given the importance of the role of audit committee mainly following up audit issues to ensure they are addressed and therefore strengthening internal control systems of the ACEs, the functionality of this committee will be a DLI for the ACEs. This functionality will be measured by holding meetings in accordance with the audit committee charter and having minutes to demonstrate that there is follow up of audit issues. Internal auditors will be expected to report to the audit committees functionally and report administratively to the Vice Chancellor of the University.

The following table summarizes the milestones of audit.

Table 2: Milestones of audit

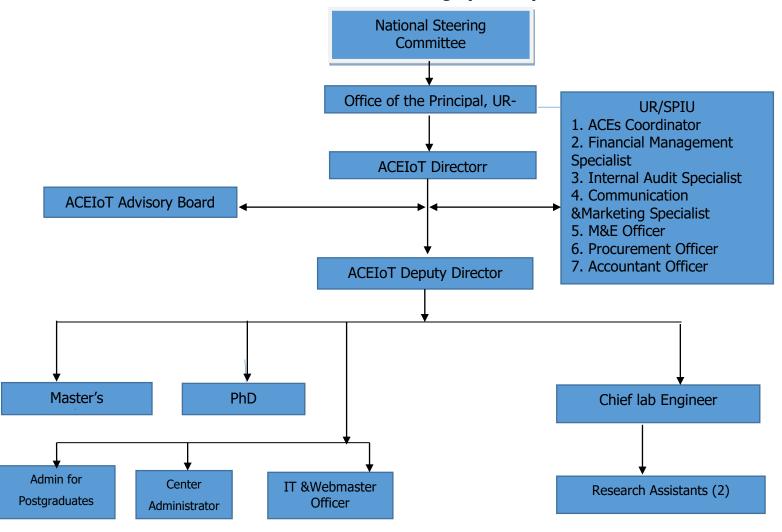
Issue	Milestone	Preparation	Approval	Submission
Audit	Internal audit report (both performance and finance)	University internal auditor	University audit committee	
	External audit of ACEs (performance and finance)	Office of the Auditor General	Auditor General	To be submitted to WB 6 months after the end of Financial Year (by 31st December of the following FY)
	Procurement audit	Rwanda Public Procurement Authority (RPPA)	Rwanda Public Procureme nt Authority (RPPA)	To be submitted to WB 6 months after the end of Financial Year (by 31st December of the following FY)
	External audit of the ACEs hosting institution (UR)	Office of the Auditor General	Auditor General	To be submitted to WB 10 months after the end of Financial Year (by 30 th April of following FY)
	External review of DLRs	Independent verifier of DLRs	Regional Facilitation Unit (RFU)	

Section 9: ACADEMIC PROCEDURES

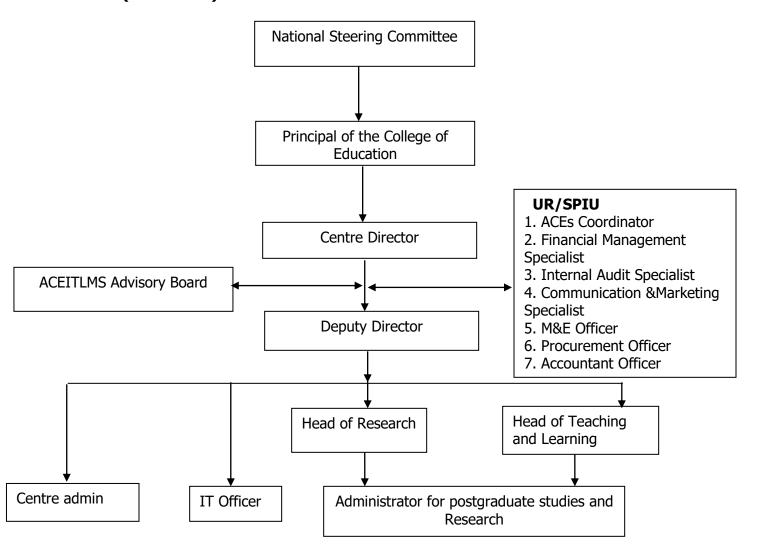
Academic procedures including enrollment (from call to registration), management of faculty member (from call to course/thesis allocation), academic management (from registration to graduation), and other guidelines to students for academic proceedings are described in specific academic rules and regulations of the University.

Section 10: ACEs ORGANISATIONAL STRUCTURES

African Centre of Excellence in Internet of Things (ACEIoT)



African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLMS)



African Centre of Excellence in Energy for Sustainable Development (ACEESD)

