

KIBOGORA POLYTECHNIC

GUIDE TO PROGRAMME DESIGN

This Guide forms part of the regulation set for the institution. Where a statement contains the word 'will' it has the force of regulation. Where it has the word 'may' it is advisory but not regulatory.

The National Learning Teaching and Assessment Policy (NCHE, 2007) is appended. All programmes will adhere to this policy or any revised policy issued by NCHE.

Background

Sound programme design is the cornerstone of a high quality academic portfolio. Programmes should:-

1. Meet an identified need – what will successful graduates be able to undertake subsequently
2. Meet all benchmarks set by external bodies for the named programme
3. Have clearly defined learning outcomes which are consistent with the need
4. Have an assessment strategy which assures that assessment is part of the student learning.
5. Have assessments which test whether all the learning outcomes have been achieved, without over-assessment of the students
6. Have a good prospect of securing sufficient additional student enrolments for programme viability

Principles

Programmes must have 120 credits per full-time year, spread equally (± 10 credits) between two semesters. Therefore there should normally be 60 credits each semester, with a lower limit of 50 and an upper limit of 70 credits.

Programmes consist of levels of study in line with national (Higher Education Council) guidelines. Therefore there are 120 credits at level 1, 120 at level 2, 60 at levels 3 and 4 and 120 at level 5.

Programmes will comprise modules of specified credit value and learning level. Normal module sizes are 10, 15, 20, 25, 30, 40 and 60 credits. Each credit is equivalent to ten student learning hours, therefore a 10 credit module is equivalent to 100 learning hours. Learning hours include everything the student should do on the module, therefore face-to-face learning (contact time) will be a small proportion of the total.

Smaller (10 credit) modules can be advantageous as they allow other tutors to incorporate the module in their own designs. However, the number of learning outcomes needs to be carefully controlled otherwise assessment of small modules becomes problematic. Larger modules allow more complex assessment approaches.

Odd numbered credits (15/25) are generally discouraged as they require another odd numbered credit module to match with. They are therefore more difficult to fit into other programmes.

If there is excessive contact time, the independent learning of the student will be restrained, and the programme will become uneconomic. If there is insufficient contact time, there will be student and parent discontent. An economic level of teaching can be deduced from the national standards for student-staff ratios (30:1 for class based and 20:1 for laboratory based subjects), the normal weekly contact hours per tutor (say 20) and the average class size (say 25). With these values the contact time per class = $(20 \times 25) / (6 \times 30) = 2.8$ hours per week. Lower SSRs and larger class sizes will increase this time, and smaller class sizes will reduce it. **The contact hours per programme will be not less than 15 hours per week for any institution award at level 1.**

The minimum viable programme recruitment is typically 20 for a stand-alone programme, **in each mode for which it is proposed**. Where there is extensive co-design with another programme the calculation is more complex but typically 30 students would be required between the programmes. Where possible market research should be conducted to establish if this level of demand for the programme exists before extensive time is invested in the design.

Modules may run over one semester or all year (two semesters – if they are 20 credits or more). Each module must reflect the learning level in content, learning approach and assessment. Therefore level 1 modules will be self-contained with simple knowledge and skill learning outcomes, primarily based around text book learning, which can be assessed by recall or test. They can lend themselves to computer-based assessment by multiple choice questions.

Higher level modules require more critical learning skills, the ability to synthesise knowledge from different sources, read more challenging literature, and are assessed in a wider variety of ways.

Designers must take care not to over-assess students, as too intensive a workload will take time from other modules. For modules which have a predominately text based assessment, an indicative assessment load would be 5000 words per 20 credit module. Therefore the total required for all the pieces of assessment added together will not exceed this.

It is important to have a strategy of assessment which gives variety and novelty, allows for different learning styles and avoids bunching of assessment load for students. Therefore there should be varied assessment at each level. It is important that programme designers take a view of the assessment of all the modules together, as module designers will not see this need unless directed.

Design Process

1 Identify the programme learning outcomes – skills, knowledge ... – at each level

2 Define the programme content

3 Structure the levels at which content should be delivered, by complexity and by definition of prerequisite knowledge

Nb because each level must be successfully completed before the next level is attempted, modules do not need to specify as pre-requisites in the Module Descriptor those modules which are compulsory at a lower level. The specification of pre-requisites is only vital where there are option module choices and only one option provides a basis for the module being designed. These do not exist in the initial institution portfolio.

- 4. Group cognate knowledge areas into modules of appropriate learning size.**
- 5. Identify the learning outcomes for each module**
- 6. Specify the assessment for each module**
- 7. Considering the modules at the programme level collectively, confirm that the programme level learning outcomes are consistent with the learning outcomes of the modules at that level, or modify the modules to suit**
- 8. Confirm that the assessment load for the programme level is appropriate and varied, or modify the modules to suit**
- 9. Define the content of each module**
- 10. Define the Teaching and Learning Approach and the breakdown of learning hours (at 10 hours per credit) between lecture/ workshop/ seminar/ self-study/ assessment**

Lectures are large group teaching; seminars tend to be smaller groups; tutorials are very small groups (student preparation for seminars is obligatory under the conduct regulations). The Teaching approach should be designed to impart knowledge effectively AND to encourage and monitor student-centred learning. A traditional didactic approach will not achieve these ends, and a flexible and varied approach is nowadays considered essential.

NCHE also require a breakdown of staff hours involved in the module. This should be for one presentation of the module, regardless of how many times the module is presented. There is no specific total to aim for.

11. Determine the Module Title and Code.

The module code is constructed from the Faculty letter, the level, and then two digits to represent the ownership of the module (shared or department-specific) and a unique final number. Module codes MUST be unique in the institution. Module titles MUST be unique in the institution. The module catalogues (one per faculty) can be interrogated by Quality Office to identify any conflicts.

NATIONAL LEARNING, TEACHING AND ASSESSMENT POLICY (NCHE,2007)

Introduction

The mandate of all higher education institutions in Rwanda is to support the social, economic and political goals of our nation. The principle of academic integrity, high-quality teaching and learning, providing equal opportunities, seeking excellence and increasing access by developing more opportunities for flexible learning both on and off campus must be central to the planning and delivery of our taught provision. Excellence in Learning and Teaching is the centre of all our activities, and the importance of continually improving them does not need justification. It must therefore be important to provide academic staff with adequate means to deliver service of high quality and assure high and improving standards, and adequate staff development to build their capacity to do so.

Global and national context for learning and teaching.

- Increased demand for external accountability, with the establishment of the National Higher Education Council and the expectation that our degrees shall be benchmarked to international standards.
- A growing emphasis on flexibility and lifelong learning.
- Structural changes to academic programmes arising from the development of a credit framework.
- Increasing focus upon the development of personal and transferable skills, including employability and entrepreneurial skills, to ensure that our graduates have the competence that employers are entitled to expect from them.
- New forms of learning arising from developments in ICT and other technologies –distance learning and blended learning.
- The need to increase the provision of part-time, community and work-based learning, including students learning off campus.

The National LTA policy.

The National Learning, Teaching and Assessment Policy provides a broad framework within which all Rwandan higher education institutions can guide the support and continued enhancement of the learning experience they provide. It aims to ensure support and enhancement of student learning across Rwandan HEIs. It provides broad strategies in LTA, which will work to inform individual institutional strategies according to their priorities. It covers the support and development of staff that are involved in teaching, the support of students learning and the development of student skills. The principles of the relationship between research and teaching and the promotion of equality through the development of an inclusive learning culture are central to the Policy.

Guiding Questions for the National LTA policy

1. To what extent do our current ways of teaching, learning and assessment encourage progressive development of independent learners equipped with necessary knowledge, skills, attributes and confidence to play a constructive role in the employment sector, ready to contribute to the social economic and political development of Rwanda? In other words, to what extent do they produce graduates who can take responsibility for decision-making, have the judgment to know when they lack the knowledge or skills to deal with a problem and are able and willing to remedy these shortcomings?
2. Is there a mismatch between workplace expectations and student skills and competences? Are we facilitating the development of the skills and qualities needed for effective employment, as well as just subject knowledge?
3. Are teaching staff provided with the necessary and appropriate training to implement innovative, imaginative and effective ways of teaching informed by current research and linking research and teaching?
4. Do the forms of assessment we use test and encourage the development of skills and competence properly as well as knowledge?
5. Are staff provided with the necessary resources and facilities to implement effective teaching?

Objectives of the policy

- To provide a framework within which Rwandan HEIs can design their own LTA strategies, procedures and methods to satisfy the needs of students taking their programmes.

- To maintain and enhance the quality of the student learning experience in the context of the individual institution's mission and strategic priorities.
- To encourage a developmental culture for LTA and adequate means for the assurance of high and improving standards.
- To equip students in Rwandan HEIs with the necessary subject knowledge, skills, attributes and confidence to enter employment, undertake further study and play a constructive and creative role in society throughout their lives.
- To enhance teacher effectiveness by supporting the role of the lecturer as a manager and facilitator of students' learning.
- To support and encourage a shift from didactic teaching to towards methods that encourage the progressive development of independent learners, with attainment standards for personal and transferable skills as well as subject knowledge.
- To address the quality assurance and monitoring strategies which apply to all undergraduates and taught master programmes in Rwanda.

The Strategic Framework

1. The Learning Strategy;

To ensure that the learning opportunities made available to students studying in Rwandan Hs

- (i) properly prepare all students to become independent and lifelong learners,**
- (ii) allow all students to develop appropriate research and academic-related skills, and**
- (iii) offer all learners an equal opportunity to develop their potential.**

All students studying in HEIs in Rwanda will be provided as appropriate with opportunities to develop a range of research and academic-related skills, both generic and discipline-specific. HEIs will be encouraged to consider ways through which student learning can be more closely integrated with aspects of the subject-specific research undertaken within the institutions. All students will also be provided with opportunities to engage in personal development planning, to ensure that they are aware of their own strengths and able to recognize the areas in which they can improve further. Staff across the country will continue to receive appropriate support to ensure that learning activities are designed to be inclusive and non-discriminatory. HEIs should take steps to align learning outcomes and assessment through implementation of the assessment strategy.

2. The Teaching Strategy

To ensure that the teaching offered by Rwandan HEIs:

- (i) builds on and is appropriately linked with subject-specific research,**
- (ii) creates no unnecessary barriers to participation and, further, is inclusive and fully accessible to all our students,**
- (iii) is structured in such a way as to facilitate the development of skills and competence as well as imparting knowledge, and**
- (iv) remains of the highest academic standard.**

HEIs will ensure the link between teaching and research, to ensure that curricula are inclusive and to maintain provision of the highest academic standard. HEIs should continue to develop programmes suited to the knowledge economy, and to develop students who are capable of deploying their knowledge and skills in a wide range of different environments. The majority of undergraduate programmes will continue to be offered on a full-time basis, but taught postgraduate provision may increasingly be offered on a more flexible basis. New and innovative postgraduate provision will be encouraged that is market-relevant, interdisciplinary, employer-sponsored and capable of attracting a wide-range of students.

The type of domain of learning, the type of students and the nature of educational goals determine the choice of teaching approaches. A wide range of teaching, learning and assessment methods should be employed. This should include but not be limited to the following;

Discovery approaches: Projects, independent studies, thesis/dissertation work, construction tasks (building prototypes, writing computer programmes, creating web pages, artistic and literary work), independent reading, case studies

Participatory approaches: Group work, focused group discussions, debates, seminars, conferences, panel discussions, peer tutoring and tutorials.

Presentation approaches: Lectures, films and slide shows, video shows, performance, demonstration and exhibition.

Application approaches: Practical exercises, simulations, teaching practice, internships, field and community attachments, case studies of real life problems.

The Assessment Strategy.

To ensure that assessment is explicit, valid, and reliable.

Core Principles of Assessment

- **Assessment will be valid** (assessment tasks will assess what is intended to be assessed and be fit for purpose). All modules have learning outcomes, which are what the assessment is to test. These learning outcomes cover knowledge/ understanding, cognitive skills, practical skills and personal/transferable skills. The Assessment for each module must cover all these objectives, and it must be clear what a given assessment task covers and that it is appropriately designed to do so.
- **Assessment will be reliable** (assessment processes and procedures will be accurate, consistent and trustworthy and their broad outcomes will have the full confidence of all parties). Internal and external moderation are important here.
- **Assessment will be explicit** (assessment tasks, processes and procedures will be accessible, clearly explained to and understood by all stakeholders including prospective and current students, funding agents, academic and related staff, professional bodies and employers). A major objective of higher education is to facilitate learning. Assessment is part of and integral to learning and teaching activities. The purposes of assessment are to help staff and students monitor and improve learning, to provide a measure of student achievement and to help assure academic quality and standards. The policy encourages a number of assessment methods.
- *Formative assessment* is designed to help learners learn more effectively through giving them feedback on their performance indicating how it can be improved.
- *Summative assessment* is used to indicate the extent of learner's success in meeting the intended learning outcomes of a unit of study or programme.

A singular assessment task may incorporate several functions. An implicit element of any form of assessment is feedback to the learners regarding his/her learning. Feedback provides information about any difference between the intended learning outcome and what has been achieved and enables the learner to identify any action required to manage this difference. Throughout the strategy the term 'assessment' includes peer and self-assessment.

Forms of assessment that may be appropriate for different learning outcomes include but are not limited to:

- Tests, examinations, short written pieces (e.g. press releases) that elicit knowledge, understanding and the ability describe accurately;
- Essays, examinations and other kinds of writing (e.g. briefing notes for ministers, employers etc) that require students to produce evidence and make reasoned argument on the basis of it;
- Essays and examinations that require students to analyse a problem, diagnose the nature of a substance or complaint, plan investigation or propose solutions;
- Oral and other non-written forms of presentation of arguments or results (oral or poster presentations, websites) – including presentations with a role-play element, such as a presentation to a non-technical audience;
- Role-plays to explore and test decision-making or group-work skills, or diagnostic ability in medicine or chemistry;
- Performance: making prototypes, works of art; writing computer programmes, poems; presenting music, drama;
- Practical tasks: laboratory-based tasks; diagnostic tasks in chemistry; research projects;
- Reports of practical tasks or visits/placements: research reports, laboratory reports, reflexive accounts of placements etc;

- Plans for practical tasks or situations: proposals for research or social intervention/action or placement activity, plans for works of art or prototypes.

4. The Academic and support staff strategy

To ensure that Academic and Support Staff within HEIs:

- (i) are effectively supported in making their contribution to learning and teaching;**
- (ii) have opportunities to appropriately develop and enhance their skills;**
- (iii) are appropriately recognized and rewarded for excellence.**

Staff are an HEI's greatest asset, and HEIs will seek to ensure that they are supported and appropriately recognized for their contribution. HEIs will therefore seek to ensure that a more joined-up approach is adopted to staff support and development, in recognition of the perpetual need for staff to develop their skills and expertise in teaching and the support of learning. This coordinated support will involve staff taking a postgraduate certificate in learning and teaching, when one becomes available nationally. This and other staff development routes should attempt to raise staff capacity to:

- Contribute to the HEI's strategic targets and to the assurance and enhancement of quality;
- Take and develop a role as managers and facilitators of students' independent learning;
- Learn new ways of teaching and assessing, share good practice and make good use of new resources from outside the country.

6. The Learning Environment strategy

- *The learning environment strategy focuses on the physical learning infrastructure, the virtual learning environment and the information resources.*

HEIs need to provide staff with the necessary material resources and training to be able to implement the institutional LTAS. We need to apply innovative ways of teaching, including e-learning and blended learning, and to link research and teaching. We also need to develop flexible learning on and off campus; the LTAS should address the quality of these provisions. Specifically, HEIs should ensure that the necessary resources are allocated to support learning and teaching, including: lecture theatres, classrooms and laboratories appropriately equipped; access to ICT; learning materials including books, journals and electronic resources; student services including guidance and counselling; and an 'Effective Learning Support Service'.