Programme Handbook

Bachelor of Arts in Development Economics

Offered by

ROYAL THIMPHU COLLEGE

In affiliation with

Royal University of Bhutan

Effective July, 2016 **Updated 2018-Aug-17**

This programme handbook should be read in conjunction with the RTC Student Handbook.

Acknowledgements:

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Table of Contents

Programme Definition

College/Institute(s): Royal Thimphu College, Ngabiphu, Thimphu, Bhutan

Name of Programme: Bachelor of Arts in Development Economics

Duration and mode of study: Three years, full-time

Awarding/accrediting body: Royal University of Bhutan

Date of start of programme: July, 2016

Date of documentation: July, 2016

Aims and Objectives of the Programme

The BA in Development Economics programme aims to contribute to the economic and cultural development of Bhutan and to promote the personal development and well-being of the people by imparting a relevant and good quality education. The programme emphasizes learning at the current frontier of economic knowledge. It places an emphasis on the understanding of basic economic principles at a level of rigor generally appropriate to an undergraduate experience. The programme is designed to provide a firm grounding in modern economic theory with special emphasis on the issues pertaining to economic development, and instil a capacity amongst learners for independent thought about economic policies and problems. The programme will aim to intellectually stimulate the students to apply the subject knowledge to a range of development problems by encouraging critical, evaluative, and strategic thinking.

A major aim of this programme is to achieve the stated learning outcomes of the programme and hence, enable a student to think like an economist. Moreover, the programme will also focus on employability, including self-employment, by developing generic and soft skills. The programme should expand the range of career choices available to graduates. Upon successful completion of this programme, graduates will have adequate training to pursue careers as development practitioners, policy analysts, civil servants, consultants, researchers, managers, businessmen, bankers, social leaders, political leaders, and academicians. The programme will also help graduates to develop adequate generic skills to remain employable in an increasingly unpredictable and volatile job market. Upon completion of this programme, students will also be able to pursue their academic interests and embark upon higher studies in economics in an institute of their choice, and effectively compete with their peers from around the globe. Broadly, the programme aims to produce productive citizens who contribute to the nation building processes.

Specific Objectives

Upon successful completion of the programme, graduates should gain competency in the following skill-sets: subject specific; cognitive; practical; and transferable.

For each of these skills, specific learning outcomes are identified that would form the core of this programme, along with appropriately aligned tools of teaching, learning and assessment.

a. Subject Specific Skills: This skill-set refers to knowledge and understanding (KU) of the subject.

KU1. Explain the fundamental principles of economics, including microeconomics and macroeconomics.

KU2. Evaluate the application of economic reasoning to the study of relevant problems and policies in economics.

KU3. Make graphical and statistical representations of economic ideas using appropriate techniques.

KU4. Analyse economic issues at a level of depth expected from undertaking research appropriate to an undergraduate Development Economics degree.
KU5. Apply relevant statistical and mathematical techniques to common economic analyses.
KU6. Apply a variety of economic techniques appropriate to the award.

b. Cognitive Skills: Cognitive skills (CS) refer to critical thinking skills.
CS1. Communicate economic concepts, models and techniques in a clear and precise style through written and oral work.
CS2. Solve quantitative or statistical problems as appropriate to the undergraduate degree.
CS3. Analyse and discuss contemporary economic issues using appropriate economic concepts, principles and constructs.
CS4. Synthesize and interpret information from a range of sources.
CS5. Apply research methodology appropriate to undergraduate level.

c. Practical Skills: (PS)
PS1. Gather and organize economic data for presentation and decision-making purposes.
PS2. Analyse and interpret economic data through the use of statistical methods including computer-based techniques appropriate to the degree.
PS3. Simplify complex problems to improve decision-making processes.

d. **Transferable Skills:** Transferable skills (TS) will be integrated within modules and will be related to relevant assessments as appropriate. Self-directed learning and the necessity to work within given deadlines will be important elements of all modules. The ability to communicate orally and in writing will be developed across the range of modules. The wide range of assessment techniques will ensure that students are given every opportunity to demonstrate their skills in these areas.
TS1. Function effectively as a reflective and independent learner.
TS2. Work effectively in teams.
TS3. Effectively communicate well-reasoned positions on economic and other issues.
TS3. Take personal responsibility for completing a senior-level research project.
TS4. Undertake self-evaluation and preparation for employment.

Curriculum Structure and Map

All modules shown are 12-credit modules except for UGR302, which comprises 24 credits. Core competencies modules are shown in grey.

Yr	Sem	Modules				
1	1	**QME101** Mathematics for Economics	**CET101** Introductory Microeconomics	**QME102** Statistical methods for Economics	**LAN101** Grammar, Vocabulary and Phonology in Context	**PRD101** Personal Development
	2	**QME103** Introductory Econometrics	**CET102** Intermediate Microeconomics	**CET103** Introductory Macroeconomics	**ACS101** Academic Skills	**IPS101** IT and Basic Problem Solving
2	3	**CET204** Public Economics	**CET205** Monetary Economics	**CET206** Intermediate Macroeconomics	**UGR201** Research Methodology	**DZG101** Dzongkha Communication
	4	**CET207** International Economics	**DEV201** Development Problems and Policies	**AEC201** Environmental Economics	**DEV202** World Economic History	**GSE101** General Analytical Skills
3	5	**DEV303** Development Process and Institutions	**Elective 1**	**AEC302** Bhutanese Economy I	**QME304** Intermediate Econometrics	**UGR302** Economics Research Project
	6	**DEV306** Behavioural Economics	**Elective 2**	**AEC303** Bhutanese Economy II	**DEV308** Industrial Economics	

Elective 1: **DEV304** Health Economics
DEV305 Rural Development: Concept and Approaches
Elective 2: **CET308** Advanced Economic Theory
DEV307 Financial Markets and Instruments

Classification/breakdown of curriculum into broad component categories

Category	Modules	% of Curriculum
Core Competency Modules	LAN101, ACS101, PRD101, IPS101, GSE101, DZG101	20
Core Economics Theory (CET) Modules	CET101, CET102, CET103, CET204, CET205, CET206, CET207, CET308 (elective)	23.3
Applied Economics (AEC) Modules	AEC201, AEC302, AEC303	10
Undergraduate Research (UGR) Modules	UGR201, UGR302 (equivalent of two modules)	10
Development Economics (DEV) Modules	DEV201, DEV202, DEV303, DEV304/DEV305, DEV306, DEV307, DEV308	23.3
Quantitative Methods for Economics (QME)	QME101, QME102, QME103, QME304	13.3

Category	Modules	% of Curriculum
Modules related to economic development issues	CET204, CET205, CET207, CET308, AEC201, DEV201, DEV202, DEV303, DEV304/DEV305, DEV306, DEV307/DEV308	36.7
Modules related to economic development in Bhutan	AEC302, AEC303	10

Core Competencies

The Wheel of Academic Law, Section B5 (Expectations of RUB Graduates) sets out the professional, personal, and academic attributes that all graduates are expected to have developed within their RUB degree programmes. In principle, skill development could be happening alongside the acquisition of content knowledge in every module of a programme. In practice, a holistic approach has been difficult to achieve, and the sum of knowledge and skills gained from individual modules has not necessarily added up to full achievement of the expectations set out in WAL Section B5. It may be the case that fundamental skills need specific focus and modules of their own, such that students may be able to practice, develop, and enhance these in their other modules. As already recognized in WAL B6 (Languages and ICT competencies), some of these fundamental skills are treated as competencies that must be achieved within a programme (English, Dzongkha, IT skills). This programme includes a broader range of competencies that students should specifically seek to achieve.

The structure is intended to give students a strong foundation in basic lifelong skills. By working around a single subject major, the student will get even greater depth in that subject than is now possible through the dual subject programmes, while at the same time allow for approximately one fourth of the modules to focus on skills development. Being skills-development focused, the modules' learning outcomes would be largely based on demonstration of the competencies, not necessarily specific subject content knowledge. As such, they have a common scaffold in mind, but may be expected to have some infusion of subject-specific content (as the vehicle for developing those competencies).

The core competencies modules (shown in grey above) are:

1. LAN101: Grammar, Vocabulary and Phonology in Context
2. ACS101: Academic Skills
3. PRD101: Personal Development
4. DZG101: Dzongkha Communication
5. IPS101: IT and Basic Problem Solving
6. GSE101: Analytical Skills

Entrance Requirements

Students' Background:	Min. Entrance Requirements / Eligibility Criteria
Bhutanese Students	● BHSEC Class XII pass (or equivalent for Bhutanese studying outside Bhutan) ● 50% aggregate in best 4 subjects ● 45% marks in English ● 45% marks in Mathematics/Business Mathematics or Economics ● Pass in Dzongkha
Non-Bhutanese*	● Passing score on ISCE/BHSEC, or equivalent secondary education certificate from home country ● 45% marks in English ● 45% marks in Mathematics/Business Mathematics or Economics

** Note: DZG101: Dzongkha Communication will be substituted with a module from a collection of approved alternative modules for foreign students.*

Bridge course in Mathematics

Due to the breadth and depth of quantitative input embedded in the programme, a bridge course in mathematics will required for any students scoring less than 60% in Mathematics/Business Mathematics in Class XII. This non-credited course aims to refresh and improve the general level of quantitative proficiency of the newly admitted students. The course will comprise 20 hrs in-class, and will be provided over two weeks just prior to the start of the first semester. The outline of this course is provided in Appendix 1.

Progression Criteria, Final Results and Awards

The criteria for progression from one semester to the next and final award criteria are as per the guidelines given under section D1 in The Wheel of Academic Law, RUB (latest version available at http://www.rub.edu.bt/), subject to any amendment or revision as made by the Academic Board of the University. Briefly:

Students must pass all modules in a RUB programme in order to graduate with a degree. To progress to the next semester, students must not fail more than 30% of the total number of modules offered, rounded to the nearest number. In this programme, students must pass at least three out of the five modules each semester, or they are considered semester failures, in which case they may repeat the failed semester, if they wish to, in the following year with the junior cohort. To pass a module, students must obtain a minimum mark of 50% overall and at least 40% in both the Total Continuous Assessment (CA) and Semester-End (SE) Examination components. Any module failure must be cleared through reassessment or module repeat as set out in Section D6 of the Wheel of Academic Law of the RUB.

Overall marks (given as percentages) are aggregated in proportion to the module credit weight within a particular year. The final percentage mark over all three years of the programme is a weighted average of aggregate marks in each year in the ratio of 20:30:50 (1st year: 2nd year: 3rd year).

The final marks for each semester must be endorsed by the Programme Board of Examiners (see below, section on “Programme Management”).

Learning and Teaching Approaches

1. A major aim of this programme, with its associated award, is to achieve the stated learning outcomes of the programme and hence enable students to think like economists. In order to achieve this, the learning and teaching strategies of this programme will be based on building the basic principles of economics at stage one, with a particular focus on threshold concepts. These concepts lead to a transformed way of understanding economics, and may open up a new and previously inaccessible method of thinking about real-world economic issues. Intermediate analysis and rigour are developed in the stage two modules, whilst more specialist, advanced, evaluative and critical thinking is enhanced in the modules at the final stage of the programme.
2. The programme will use a wide range of teaching and learning methods including, but not limited to, lectures, tutorials, workshops, laboratory work, group learning, self-directed student-led inquiry and, tutorials. A combination of methods provides the main platform for student learning that enables them to achieve the intended learning outcomes of the programme in which a dialogic approach is emphasized. Lectures will be strongly supported by the use of learning technologies such as tutorials, guest lectures and online resources.
3. Teaching methods will be used to encourage a more cooperative learning environment. For example, a learning community will be developed during the induction week viz. an ‘Economics Society’ for the first year students, wherein economic games and experiments will be used with the aid of senior students. Other activities involve students working in small groups on both formative and summative assessments and innovative-use assessment in order to overcome potential free-riding problems that might occur. Co-operative learning will be encouraged both inside and outside the classroom with the use of assessed group work, inquiry-based learning and problem based learning.
4. Inquiry-led learning is a major theme of the programme, which will increase incrementally from year 1 to year 3. It is introduced in year 1, particularly in introductory modules, where students start developing the inquiry-led skills. A greater degree of independence is will be encouraged in year 2 through the intermediate modules, and at year 3, students are expected to fully engage in inquiry-led learning, principally through the project work leading to an undergraduate research thesis.
5. Regular, immediate and dialogic feedback will be a major element of the programme’s teaching and learning strategy. Feedback will be offered at both module level and programme level through

interactive workshops and lectures, office hours, personal tutorial sessions, and on-line. Formative feedback on summative coursework will also stress on the feed forward for later assessments.

6. A student-led 'Economics Society' facilitates interaction between students at different levels of the programme, staff-student interaction through academic and social events, student/staff seminars, field trips and visiting speakers. Additionally greater opportunity for interaction with students from similar programmes from other universities in South Asia will be provided under the umbrella of the South Asian Economics Students Meet (SAESM).

Assessment

1. The assessment process is designed to ensure that it impartially measures student learning and achievement authentically throughout the programme. A range of different assessment methods will be used across each of the module both to support the development of a variety of skills and knowledge, and to take into account the different learning styles of the students. In the assessments of group work and presentations, guidance will be given both on working as a group and on presentation skills before the assessment.
2. Detailed work plans prepared by tutors will ensure that the assessment workload is consistent with the assessment strategy for each module. A range of formative and summative assessment methods will be applied to address the issues of varying learning styles of students.
3. Deadlines for coursework are communicated well in advance and are included in the module work plan provided at the beginning of the module.
4. An appreciation of the vital role that high-quality feedback plays in the learning process underpins the design of assessment activities. Early formative and summative assessments will be used particularly on stage one of the programme in order to ensure early (timely) feedback and guidance for students who are in transition. Focus will be given to immediate verbal feedback and more detailed written feedback at a later date. Thus, regular immediate and dialogic feedback will be a major element of the teaching and learning strategy.
5. The assessment method will also be used develop the ability of the students to self-evaluate their own work and that of their peers. In order to achieve this, it is crucial that there is a shared understanding between the tutor and students of the standard of high quality work – this will be established early in the programme.
6. This active-learning environment aims to also encourage students to gain a better understanding of the assessment criteria for their own work.
7. There will be an innovative and integrative assessment that provides unique training in research methods and techniques for economics undergraduates. Students are required to prepare and write an in-depth written report, present, and defend their research in front of their tutor and peers. This provides an opportunity for students to synthesize material from a range of modules in the programme. In addition, students write a critique of a fellow student's research, which requires them to have developed the ability during the programme to understand what is required of good research work.
8. CA components, including CA exams such as the midterms, are intended to be formative assessments. Module tutors are encouraged to treat CA components as opportunities for giving feedback to students and students are encouraged to improve their work based on the feedback given. This is typically done through allowing multiple drafts of submitted work, for which marks can be incrementally improved in a limited fashion. This must be based on students' own initiatives to put in the effort and time required to improve. A careful balance should be struck between allowing improvement of graded work and rewarding work that has been submitted properly the first time so as not to disadvantage stronger students. Previously failed work that was plagiarized or of excessively poor quality cannot be redone and resubmitted for more than the bare minimum pass mark.
9. Academic dishonesty should be addressed as per the provisions of section D4 of The Wheel of Academic Law. In particular, marks for plagiarized work should reflect gravity and extent of the plagiarism involved. In cases of substantially plagiarized work where no adequate attempt has been made to acknowledge sources, the work should be awarded zero. If a new substitute/make-up work is allowed, this should be marked out of a maximum of 50% of the marks possible in the original assignment.

Following are the principal teaching, learning and assessment methods to be used to enable achievement of the specific learning outcomes of the programme:

Learning Outcomes	Learning and Teaching Approaches	Assessment Approaches
KU1-KU3, KU6	Formal lectures, seminars, tutorials and workshops, reading of recommended texts/journal articles	Examinations, coursework assignments, time-constrained tests
KU4	Independent research	Economics research project and thesis
KU5	Lectures, use of appropriate econometric software	Examinations, coursework and individual projects
CS1-CS3	Problem-based learning, projects, workshops, statistical packages, seminars	Presentations, seminar papers, written projects, examinations, problem-solving exercises, case studies
CS4 and CS5	Are gained through independent research and specialist research methodology workshops	Research project and report
PS1-PS2	Relevant statistics software and business games	Projects, group work and examinations
PS3	Case studies, project work	Case study analyses; Research project and report

Programme Management

The roles of the Programme Leader, the Programme Committee, the Head of Subject/Department, the Head of the College/Institute, the Institute Academic Committee are as defined in the RUB Wheel of Academic Law (2011) Sections A7.6, A7.7, and F6. Briefly:

The RTC Academic Committee (AC) is convened by the Director and chaired by the Dean of Academic Affairs. Members of the committee include the Registrar (head of Student Services), the Associate Dean, Senior Advisors, faculty representatives (all programme leaders and department heads), three representatives of non-teaching staff, the head librarian, and three elected student representatives. The AC is the overarching authority on all academic issues and ultimate guarantor of standards and quality at the college-wide level and for the University. All programme management committees and examiners report to the AC. The AC should be consulted at the beginning of each semester to approve minor changes to modules in the programme under guidelines specified by the University on allowable changes.

The programme is run by the Economics department and managed by a Programme Committee responsible for the effective conduct, organisation, and development of the programme. The committee comprises all teaching faculty of the core (host) department as well as a Programme Leader who is also the Head of the host department and provides the academic and organisational leadership for the programme. These are indicated below under “Academic Staff”. Representatives of other departments teaching within the programme are also committee members. Additionally, the committee includes elected class representatives (CRs) of each section of students in the programme at all levels. Student involvement in the monitoring of the programme is thus done at this level as well as the level of the AC. In addition, student-staff consultation is done regularly through meetings with CRs across all programmes with the Dean, as well as within the programme with the Programme Leader. In addition to addressing general programme-independent concerns, the consultations seek to incorporate constructive discussion of the programme, its demands on students, and possible improvements.

The authority for matters regarding assessment and progression is delegated to the Programme Board of Examiners (PBE). The board includes a Chair from outside the programme’s management and teaching faculty, the Programme Leader, each faculty teaching within the programme, and an

external examiner on a regular basis as and when appointed by the Academic Board. Each semester's results are declared after endorsement of the PBE. The PBE is accountable to the AC.

Additional quality assurance mechanisms within the College

- *Quality Assurance and Enhancement Committee* – In addition to RUB quality assurance requirements, the College has instituted a Quality Assurance and Enhancement Committee (QAEC) with representatives from the Academic Affairs Department (Dean, Associate Dean, three senior faculty), the Student Services Department (Registrar), and the Finance and Administration Department (Department Head). The QAEC is responsible for providing a strategic view, guidance, and recommendations on overall institutional quality at RUB standards and in line with the Bhutan Accreditation Council (BAC) framework, principles, and specific guidelines and criteria.

- *Faculty performance management and enhancement* – Faculty performance is monitored regularly and evaluated at the end of each semester. Each semester, programme leaders sit in on and complete observations of faculty in-class performance (quality of the teaching), and out-of-class performance (quality of the conduct of general faculty duties, student advising). Where issues affecting teaching-learning are identified, these may trigger specific action plans for the concerned faculty member to pursue to improve in targeted areas. Each faculty also completes a self-appraisal at the end of each semester, coupled to further feedback from the Programme Leader and Dean. In addition to general faculty meetings, the College's Academic Affairs Department also holds regular Continuous Professional Development (CPD) sessions for all faculty, incorporating guest presentations, teaching development workshops, and peer strategy sharing. These are held approximately every two weeks within a semester. Topics for the 2013-2014 academic year included: strategies for advising students, utilizing peer-tutoring to enhance learning among students, the art of statistics, workshops on plagiarism, navigating information and information literacy, and various presentations on strategies for formative assessment.

  For diversification, stability and sustainability, and to improve the programme quality to a level at par with international standards, RTC may recruit more senior faculty, including some who may be older/retiring, from other universities on a contract basis. The College also recruits national adjunct/visiting lecturers (who are experienced in certain subject modules) on a part-time basis. The college also has been using the resources and expertise of some agencies to enhance knowledge and skills of the students, and this will be continued with proper formality and networking.

  On the other end of the spectrum, to improve programme quality and make the programme relevant to changing times and needs, training will be provided as necessary to upgrade the expertise of faculty members who are in need of it. Moreover, faculty members new to teaching are asked to join the College's Teaching Development Group that works to enhance core teaching skills among its members through activities such as peer observation partnerships and teacher training programmes. The College also sends early career faculty to the Samtse College of Education to participate in its Post-graduate Certificate/Diploma programme in Higher Education.

- *Module coordination* – Any module for which multiple sections are taught has a module coordinator who organizes and synchronizes the teaching-learning for the module across sections. For assessments that involve testing (quizzes, class tests, midterm and semester-end examinations), question papers are made jointly. Where possible, cross-grading techniques are also employed. In certain modules wherein the content is found to be modular (the order of teaching certain units can be switched around without affecting the logical flow of the syllabus), cross-teaching of specific units across sections is also employed to maintain maximum consistency.

- *Student information systems* – The curriculum, class schedules, and mode of assessments and marks thereon are made transparent and available to students and other stakeholders such as parents/guardians through the RTC Classes database system.

- *Student feedback* – A system is in place in the College whereby each student evaluates each module taught and the tutor at the end of each semester in order to help programme leaders and teachers monitor the success and effectiveness of the delivery of the programme and make future improvements.

- *Peer review* – The College institutes peer-review mechanisms within and across programmes for its examinations. The use of college-wide formal midterm examinations, with the same quality assurance mechanisms that go into semester-end examinations, helps ensure that continuous assessment in all programmes is proceeding on track and provides an opportunity for peer review and moderation at the halfway point in a semester. All question papers are peer-reviewed and moderated (involving the module coordinator and other tutors of a module, and at least two other reviewers). In addition to ensuring the overall quality of the question paper itself, this mid-semester event involves review of the progress of continuous assessment to date in each module. A similar peer-review and moderation is conducted for semester-end examination question papers and continuous assessment progress approximately two to three weeks prior to the start of semester-end exams.

- *Module repeats* – If a student has failed a module (but not the whole semester) and has also failed in the reassessment of that module, the student must meet all assessment requirements, essentially repeating the module as per section D1 of The Wheel of Academic Law. However, as he/she has already progressed (albeit with a prior module failure), attendance in lectures is not mandatory. At RTC, a standardized mechanism has been instituted for conducting module repeats. Students must formally register for the repeats at the beginning of any semester in which the failed module is being re-offered. A module repeat tutor will be assigned (usually the same tutor teaching the module in its regular offering in the current semester). A schedule of meetings will be set in which the tutor and repeat student(s) must meet a minimum of two hours per week. A work plan is also set in which the coverage of syllabus topics and assessments are organized. Assessments are to be on par with what students would have to do in the regular course of that module.

- *Student Advising* – All first years students will have faculty advisors support and advice on their studies, food, lodge, transport, and any other personal problems. Each tutor has five - ten students to guide. Additionally, weaker students in the second or third year who have un-cleared prior module failures will be paired with an advisor to guide and motivate them. The advisor and advisees meet in groups and individually four to eight times in a semester as necessary.

The Modules

Module Code and Title: **QME101 Mathematics for Economics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Tshering Lhamo Dukpa

General objective: This is the first of a compulsory sequence of quantitative modules related to economics. The objective of this module is to provide the knowledge of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the modules on microeconomics, macroeconomics, statistics, and econometrics. In this module, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general.

Learning outcomes – On completion of this module, learners should be able to:

1. Apply the notions of a set and basic operations on sets.
2. Solve matrix operations and systems of linear equations.
3. Apply the Leontief input-output model to solve real-world problems.
4. Apply the concepts of functions, continuity and limit.
5. Calculate the derivatives of a function.
6. Calculate derivatives to find extreme points.
7. Define the concepts of definite and indefinite integral.
8. Apply the notions of a partial derivative of a function of several variables.
9. Interpret gradient and level curves.

Learning and Teaching Approach: This module will use a mix of procedural and conceptual approaches to teaching mathematics. The module tutor shall combine direct instruction of rules and procedures for solving problems in the classroom lectures, and use a conceptual approach to convey why particular formulae and processes of solutions work. The lectures will be complemented with tutorials focusing on self-discovery, use of manipulative problem solving, and group work.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and group work	1	15
Independent study	4	30
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 15%
   To be given before the midterm examination, this assignment will test problem-solving skills, ability to identify a problem, and decide why and how a particular mathematical device can be applied to find solution. The assignment shall have maximum limit of 200 words.
   - 3% Ability to understand a problem
   - 3% Identify appropriate mathematical device to solve the problem
   - 6% Finding solution
   - 3% Interpretation of the findings

B. Class Tests: Portion of Final Marks: 20%
   Four written tests will be conducted (at least one test every month, each test worth 5%), that will comprise 45 min duration and cover 2-3 weeks of material. The tests will contain 4 questions (2 on the conceptual understanding and 2 on problem solving).

C. Group Work: Portion of Final Mark: 10%
   Group size: 4 students. The task is to test conceptual understanding of given mathematical devices, and identify situations in which they can be applied. The group work should have one

component each for every student to be individually responsible for, while effective groups would also cross-check each team member's work. The assignment should have a maximum limit of 200 words.

1% Group work plan
3% Individual work
2% Review of individual work by team members
4% Synthesis of individual work in a joint report

D. Midterm Examination: Portion of Final Mark: 15%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	15%
B. Class Tests	4	20%
C. Group Work	1	10%
D. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**60%**
Semester-End Examination (SE)		**40%**

Pre-requisites:

Subject matter:

1. Preliminaries
    1.1. Logic and proof techniques: propositions, implications, necessary and sufficient conditions, mathematical proof, deductive and inductive reasoning
    1.2. Sets and set operations: Set notation, relationship between sets, operation of sets, laws of set operation, Venn diagrams
    1.3. Real number systems: natural numbers, positive integers, rational numbers, irrational numbers, decimal system, real numbers
2. Functions of one real variable
    2.1. Graphs
    2.2. Elementary types of functions: linear, quadratic, polynomial, power, exponential, logarithmic
    2.3. Sequences and series: convergence, algebraic properties and applications
    2.4. Continuous functions: characterizations, properties with respect to various operations and applications
    2.5. Differentiable functions: characterizations, properties with respect to various operations and applications; second and higher order derivatives: properties and applications
3. Single variable differentiation
    3.1. Slope
    3.2. Simple rules for differentiation
    3.3. Second and higher order differentiation, Chain rule, polynomial approximations, elasticities
    3.4. Limit, continuity, continuity and differentiation
    3.5. Value theorems, Taylor's formula, Indeterminate forms, inverse functions
4. Optimization
    4.1. Single variable Optimisation: geometric properties of functions, first derivative test, convex functions, their characterizations and applications
    4.2. Multivariable optimisation: local and global optima: value theorem, geometric characterizations (concave/convex functions, conditions for concavity /convexity, quasi concave/convex functions), characterizations using calculus and application (constrained optimisation through Lagrangean multiplier method)
    4.3. Linear programming: Duality theory, complementary slackness
5. Integration of functions
    5.1. Areas under curves
    5.2. Indefinite integrals

5.3. The definite integral, integration by parts, Integration by substitution
6. Difference equations
   6.1. First order difference equations
   6.2. Compound interest and present discounted values
   6.3. Linear equations with variable coefficient
   6.4. Second order equations, with constant coefficients
7. Differential equations
   7.1. First-order differential equations
   7.2. Integral curve, direction diagram and slope field
   7.3. Qualitative theory and stability
   7.4. Second order differential equations, with constant coefficients
8. Linear algebra
   8.1. Vector spaces; algebraic and geometric properties, scalar products, norms, orthogonality
   8.2. Linear transformations: properties, matrix representations and elementary operations
   8.3. Systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications

Reading List:

1. Essential Reading
   1.1. Chiang, A.C. (1984). *Fundamental Methods of Mathematical Economics*. New York: McGraw Hill.
   1.2. Sydsaeter, K., & Hammond, P. (2000). *Mathematics for Economic Analysis*. Delhi: Pearson Educational Asia.
2. Additional Reading
   2.1. Allen, R.G.D. (1974). *Mathematical methods for Economics*. McGraw Hill.
   2.2. Simon, K.P. & Blume, L. (1994). *Mathematics for Economists*. W.W. Norton, New York. London. Retrieved from http://www.academia.edu/4797403/Mathmatics_for_Economists_e_book_Simeone_and_Blume_
   2.3. Warner, S. & Costenoble, S.R. (2010). *Finite Mathematics and Applied Calculus.* Thomson, Brooks/Cole

Date: January 15, 2016

Module Code and Title: **CET101 Introductory Microeconomics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonam Yeshey

General objective: This module is designed to expose students to principles of microeconomic theory. The emphasis will be on helping them to 'think like economists'. This module will introduce undergraduate students to the principles of economic thinking, basic concepts of microeconomics and, how the rational choices/decisions are made by different economic agents.

Learning outcomes – On completion of this module, learners should be able to:

1. Identify underlying assumptions of economic models.
2. Explain the importance of standard assumptions in the microeconomic models.
3. Find solutions to basic microeconomic problems using graphical approaches.
4. Analyse the role of market mechanisms.
5. Explain the consequences of government interference in price mechanisms.
6. Explain consumer responses to particular stimuli using indifference curve analysis.

7. Determine the behaviour of firms under different market structures.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, workshops and self-directed study. Lectures will aim at explanation of various concepts and theories. Lectures will be complemented by tutorials for self-exploration and problem solving in smaller groups. In a series of workshops, students will be divided into smaller groups of 5-6 to work on problem statements to collectively find solutions.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and workshops	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 20%
Evaluate basic assumptions (both explicit and implicit) related to human choices, and, explain deviation from the rational behaviour. The assignment should have a maximum limit of 300 words.
   - 4% Identify key assumptions
   - 6% Logical analysis of their relevance
   - 6% Explain deviation from the rationalist behaviour
   - 2% Language
   - 2% Academic structure of assignment

B. Class Tests: Portion of Final Marks: 20%
Four small written tests will be conducted (worth 5% each) that will comprise 30 min duration and cover 2-3 weeks of material. The tests will have a maximum of 5 questions (covering conceptual understanding, and problem solving elements).

C. Classroom experiment: Portion of Final Marks: 10%
In groups of 4, students will complete a task based on optimising decisions made by households/firms.
   - 1% Identification of data needed
   - 3% Analytical Methods
   - 2% Identification of assumptions
   - 4% Result analysis

D. Midterm Examination: Portion of Final Mark: 15%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	20%
B. Class Tests	4	20%
C. Classroom experiment	1	10%
D. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**65%**
Semester-End Examination (SE)		**35%**

Pre-requisites:

Subject matter:

Focus should only be towards graphical approaches/simple mathematical approaches for solution generation, avoiding the use of calculus.

1. Exploring the core subject matter of Economics
   - 1.1. The scope and method of economics; scarcity and choice
   - 1.2. Questions of what, how and for whom to produce
   - 1.3. The basic competitive model; prices, property rights and profits
   - 1.4. Incentives and information

1.5. Rationing; opportunity sets; economic systems
1.6. Reading and working with graphs
1.7. Supply and Demand
1.8. How Markets Work, Markets and Welfare
1.9. Individual demand and supply schedules and the derivation of market demand and supply
1.10. Shifts in demand and supply curves; role prices in resource allocation
1.11. Concept of elasticity- price, income, cross and elasticity of substitution and their applications; consumer and producer surplus; taxes and their efficiency costs

2. Household decisions
   2.1. Preferences and their representation with indifference curves
   2.2. Budget constraint
   2.3. Consumer's optimum choice
   2.4. Income and substitution effects using Hicks and Slutsky approaches
   2.5. labour supply and savings decisions
3. Behaviour of Firms
   3.1. Cost and Revenue Concepts
   3.2. Perfect Market Structure
   3.3. Behaviour of profit maximizing firms and the production process (use only graphical approach for solution).
   3.4. Short-run costs and output decisions
   3.5. Costs and output in the long run
4. Imperfect Market Structure
   4.1. Monopoly and anti-trust policy; discriminating monopoly
   4.2. Government policies towards competition
   4.3. Imperfect competition: monopolistic competition, oligopoly and duopoly;(discuss only the main features of these market)
5. Market for Inputs
   5.1. Labour and land markets
   5.2. Concept of derived demand
   5.3. Input productivity and marginal revenue product and input demand curves
   5.4. Competitive input markets and public policy

Reading List:

1. Essential Reading
   1.1. Case, K.E., & Fair, R.C. (2007). *Principles of Economics*. Pearson Education.
   1.2. Pindyck, R., Rubinfeld D., and Mehta P. (2009). *Microeconomics.* 7th Ed. Pearson.
2. Additional Reading
   2.1. Browning, E.J. & Zupan, M.A. (2011). *Microeconomics Theory and Applications*. Wiley.
   2.2. Mankiw, N.G. (2007). *Economics: Principles and Applications*. Cengage Learning India Private Limited.
   2.3. Stiglitz, J.E. & Walsh C.E. (2007). *Economics.* New York: W.W. Norton & Company, Inc.

Date: January 15, 2016

Module Code and Title: **QME102 Statistical Methods in Economics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonal Mehta

General objective: The module introduces some basic concepts and terminology that are fundamental to statistical analysis and inference relevant to the study of economics. It develops the notion of probability, and probability distributions of discrete and continuous random variables. This module will help students to summarize data, analyse empirical relationships, test theories, and make predictions. The module introduces students to statistical tools, e.g., hypothesis testing and parameter estimation. The main intent is to enable students to understand how statistical procedures are used to summarize information.

Learning outcomes – On completion of this module, learners should be able to:

1. Identify different levels of data.
2. Set up sample data for a simple statistical analysis.
3. Use spreadsheets for data mining.
4. Present data and interpret results.
5. Explain probability theory.
6. Discuss the significance of common statistical measures, e.g., mean, skewness and range.
7. Interpret the output of simple linear regression and correlation analyses.
8. Distinguish between normal, Poisson and binomial distributions.
9. Explain confidence intervals and p values.
10. Formulate null and alternative hypotheses.
11. Construct graphical displays using spreadsheets.

Learning and Teaching Approach: Lecture, tutorials, laboratory work and group work will be used as primary activities for teaching and learning. The module tutor shall use direct instruction for explaining the rules and procedures for solving problems in the class lectures, and use a conceptual approach to convey why particular formulae and processes of solutions work. Focus should be on the interpretation of output derived using statistical software, e.g. from spreadsheets. The lectures will be complemented with tutorials. Students will use a computer laboratory to learn the use of spreadsheets for data analysis. Group work will focus on collective learning and problem solving.

Approach	Hours per week	Total credit hours
Lecture	3	45
Tutorials and Laboratory work	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 10%
   The assignment will assess the ability of students to discuss the significance of statistical measures, identify when they are applied, and point out their shortcomings. The assignment should have a maximum limit of 250 words.
   - 4% Clearly outline the significance of each measure
   - 3% Explain when each measure is used
   - 2% Identify any shortcomings
   - 1% Provide relevant examples to support arguments

B. Class Tests: Portion of Final Marks: 20%
   Four written tests will be conducted (worth 5%, two prior to and two after the mid-semester), that will comprise 45 min duration and cover 2-3 weeks of material. The tests will contain 5 questions (3 on the conceptual understanding and 2 on problem solving).

C. Practical Exercise: Portion of Final Mark: 15%
   The task is for each student to clean and arrange the given raw data and provide a descriptive and graphical analysis, as a form of “data mining”. The tutor will provide raw data for the work. Students should use spreadsheets for this work.
   - 2% Data cleaning
   - 3% Arrangement of raw data for analysis
   - 6% Clearly communicate the analysis of results- descriptive and inferential statistics
   - 4% Construction of appropriate graphs to represent the analysis

D. Midterm Examination: Portion of Final Mark: 15%

Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	10%
B. Class Tests	4	20%
C. Practical Exercise	1	15%
D. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**60%**
Semester-End Examination (SE)		**40%**

Pre-requisites:

Subject matter:

1. Introduction
    - 1.1. Nature and use of statistics
    - 1.2. Statistical challenges and pitfalls
2. Data Collection:
    - 2.1. Level of measurement: nominal, ordinal, interval and ratio
    - 2.2. Time series date, cross sectional data and panel data
    - 2.3. Sampling concept: population, sample, sample frame, required sample size, basic methods for selecting samples, sampling and non-sampling error, non-response
3. Visual Description of Data
    - 3.1. Dot plots, frequency distribution and histograms and frequency polygons, ogives
    - 3.2. Line charts, bar charts, scatter plot and pie charts
4. Descriptive Statistics
    - 4.1. Central tendency: Mean- Simple, weighted, harmonic and geometric, median and mode, relation between AM, GM and HM, quartiles, deciles and percentiles
    - 4.2. Dispersion: Range, inter quartile range, mean deviation, standard deviation, variance, Chebyshev theorem, coefficient of variation
    - 4.3. Standardized data, percentiles and quintiles
    - 4.4. Moments, skewness and kurtosis
5. Probability
    - 5.1. Random experiments, counting rule and probability
    - 5.2. Rules of probability
    - 5.3. Independent events
    - 5.4. Contingency tables and tree diagram
    - 5.5. Conditional probability- independent events and multiplication law
    - 5.6. Bayes theorem, tabular approach
    - 5.7. Counting rule
6. Discrete Distribution
    - 6.1. Random variables- discrete and continuous
    - 6.2. Probability model
    - 6.3. Discrete and uniform distribution
    - 6.4. Expected value and variance
    - 6.5. Binomial and Poisson distribution
7. Sampling
    - 7.1. Random samples and random numbers
    - 7.2. Sampling with and without replacement
    - 7.3. Sampling distribution of means and proportions
    - 7.4. Unbiased and efficient estimates, point and interval estimates, their reliability, confidence interval estimates of population parameters, probable error
8. Statistical Decision Theory (focus should be interpretation of the results, ie- MS Excel output of the tests and not the computation).
    - 8.1. Statistical hypothesis
    - 8.2. Decision rule- test of hypothesis, type I and type II errors, level of significance
    - 8.3. Two tailed and one tailed tests, p-value for hypothesis test

8.4. Small sampling theory- students t test, chi-square test, confidence interval for σ, Degrees of freedom and F distribution

9. Association (*focus should be interpretation of the results, ie- spreadsheet output of the tests and not the computation*)
    9.1. Bivariate correlation- types, correlation and causation, scatter plot diagram, Pearson coefficient of correlation, probable error, rank correlation, coefficient of determination
    9.2. Bivariate regression – best fit line, regression of Y on X and regression of X on Y, making prediction, coefficient of regression, standard error of estimate
10. Index Number
    10.1. Introduction- types, problems in construction, methods of construction- unweighted and weighted
    10.2. Test of consistency: unit test, time reversal and factor reversal
    10.3. Indices: chain indices, base shifting, splicing, cost of living index, deflation

Reading List:

1. Essential Reading
    1.1. Doane, D. & Seward, L. (2010). *Applied Statistics in Business and Economics*. McGraw-Hills/Irwin.
    1.2. Newbold, P., Carlson, W. & Thorne, B. (2012). *Statistics for Business and Economics*. Pearson Education.
2. Additional Reading
    2.1. Devore, J.L. (2010). *Probability and Statistics for Engineers*. Cengage Learning.
    2.2. Larsen, R.J. & Marx, M.L. (2011). *An Introduction to Mathematical Statistics and its Applications*. Prentice Hall.
    2.3. Spiegel M.L. & Stephens, L. J. (2007). *Statistics, Schaum Outline Series*. McGraw Hills.

Date: January 15, 2016

Module Code and Title: **QME103 Introductory Econometrics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonal Mehta

Module Coordinator: Sanjeev Mehta

General objective: This module provides an introduction to basic econometric concepts and techniques. It covers estimation and diagnostic testing of simple and multiple regression models. The module also covers the consequences of and tests for misspecification of regression models. Statistical software such as SPSS will be used for data analysis.

Learning outcomes – On completion of this module, learners should be able to:

1. Interpret estimates and test results.
2. State a theory or hypothesis.
3. Apply a range of basic methods of inference to practical problems in econometrics and empirical economics.
4. Use SPSS for data analyses.
5. Run regression models for making predictions.
6. Identify the assumptions that underpin the classical regression model.
7. Identify and make adjustments for a number of common regression problems.
8. Justify and apply a relevant econometric model.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, laboratory work, classroom workshops and self-directed study. Lectures will aim at explanation of various concepts and theories. Tutorials and laboratory work will be an integral part of the module, and it is expected that much of the learning and application of econometric concepts will be achieved through these tutorials and laboratory work. The focus of learning would be enhancing students' abilities to understand each model and its underlying assumption so that they can apply the right model and make correct interpretations. It is also expected that students will spend additional independent hours on reading, problem solving, and econometric estimation each week. Students will be expected to use SPSS during laboratory work for at least 2 hours every week (1 as a class hour, 1 on their own).

Approach	Hours per week	Total credit hours
Lecture	3	45
Tutorials and laboratory work	1	15
Independent study	4	60
Total		120

Assessment Methods:

A. Individual Assignment: Portion of Final Marks: 10%
   Before the mid-term examination, students must use a given theory/hypothesis to develop a relevant regression model, and submit a written report. The assignment should have a maximum limit of 300 words.
   - 2% Clear presentation of main concepts
   - 2% Identify variables
   - 6% Description of the functional form of regression model

B. Class Tests (2): Portion of Final Marks: 10%
   One exam (worth 5%) will be given before and one after the mid semester, to test students' ability to make correct interpretations of regression outputs; 2-3 questions in each test. Time: 45 minutes.

C. Case Analysis: Portion of Final Mark: 10%
   Analysis of a regression model. Students will work on analysis of a research paper provided by the tutor to analyse the methodology applied to test the data given. Report word limit: 300 words.
   - 3% Justification for the given methodology
   - 3% Provide alternative methodology
   - 1% Review possible issues with the suggested methodology
   - 2% Handling Q&A session (individually marked)

D. Practical assignments (2): Portion of Final Marks: 20%
   One before and after the midterm examination (10% each): students will complete lab work using SPSS for data analysis and result interpretation using raw data.
   - 2% Arrangement of data in SPSS
   - 2% Use of appropriate econometric tool(s)
   - 1% Convert the SPSS output into required (journal) format
   - 5% Interpretation of the results

E. Midterm Examination: Portion of Final Mark: 15%
   Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	10%
B. Class Test	2	10%
C. Case Analysis	1	10%
D. Practical	2	20%
E. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**65%**
Semester-End Examination (SE)		**35%**

Pre-requisites:

Subject matter:

1. Introduction to SPSS
    - 1.1. Layout, Menus and Icons
    - 1.2. Data, Transform
    - 1.3. Analyse
    - 1.4. Graph and Utilities
2. Introduction
    - 2.1. Methodology of econometrics
    - 2.2. Types of econometrics
    - 2.3. Nature and scope of econometrics
3. Simple Linear Regression Model *(Note: From unit 3 to unit 7, focus should be on developing conceptual framework, ability to decide when and which econometric tool needs to be applied and interpretation of SPSS output. Calculation and derivation of equations is not required.)*
    - 3.1. Two variable OLS model, CLRM and its main assumptions
    - 3.2. Monte Carlo experiment
    - 3.3. Properties of estimators
    - 3.4. Goodness of fit
    - 3.5. Tests of hypotheses
    - 3.6. Scaling and units of measurement
    - 3.7. Confidence intervals; analysis of variance
    - 3.8. Gauss-Markov theorem
    - 3.9. Reporting the results of regression analysis
    - 3.10. Forecasting
4. Multiple Linear Regression Model
    - 4.1. Estimation of parameters
    - 4.2. Properties of OLS estimators
    - 4.3. Goodness of fit - R2 and adjusted R2
    - 4.4. Partial regression coefficients
    - 4.5. Testing hypotheses – individual and joint
    - 4.6. Functional forms of regression models
    - 4.7. Qualitative (dummy) independent variables
5. Violations of Classical Assumptions
    - 5.1. Consequences, Detection and Remedies
    - 5.2. Multicollinearity
    - 5.3. Heteroscedasticity
    - 5.4. Serial correlation
6. Specification Analysis
    - 6.1. Omission of a relevant variable
    - 6.2. Inclusion of irrelevant variable
    - 6.3. Tests of specification errors

Reading List:

1. Essential Reading
    - 1.1. Dougherty, C. (2007). *Introduction to Econometrics*. Oxford University Press, Indian Edition.
    - 1.2. Gujarati, D.N., Porter, D.C. & Gunasekaran S. (2012). *Basic Econometrics*. Special Indian edition. McGraw Hill.
2. Additional Reading
    - 2.1. Gujarati, D. (2012). *Econometrics: By Example*. Palgrave Macmillan.
    - 2.2. Kmenta, J. (2008). *Elements of Econometrics*. Indian Reprint, Khosla Publishing House.

Date: January 15, 2016

Module Code and Title: **CET102 Intermediate Microeconomics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonam Yeshey

General objective: This module builds on the module on introductory microeconomics to introduce students to the formal and more advanced analytical tools for the modelling of a micro-economy. It explores the efficiency and equity implications of competition and other market structures, and provides a perspective on the role of government. It deals with issues such as consumer choice, production and cost, market structure, and market failure. Intermediate Microeconomics places greater emphasis on the application of the concepts to real world problems.

Learning outcomes – On completion of this module, learners should be able to:

1. Explain consumers' and firms' behaviours using mathematical tools.
2. Differentiate between the choices made by economic agents under various risk scenarios.
3. Describe the determinants of consumer choices, including inter-temporal choices.
4. Explain the results of, and methods used in, expected utility theory.
5. Describe the pattern of interaction between various microeconomic decisions.
6. Apply economic theory to diverse real-world situations.
7. Outline the problems related to the more common economic assumptions (rationality, equilibrium reasoning, and optimisation).
8. Analyse economic problems and prescribe solutions.
9. Describe economic situations in a logical and precise manner.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, workshops and self-directed study. Lectures will aim at explanation of various concepts and theories. These will be complemented by tutorials for self-exploration and group problem solving. In workshops, students will be divided into smaller groups of 5-6 and to work on a problem statement to collectively find solutions.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and workshops	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 15%
   Students will be given a task related to problem solving. The assignment should have a maximum limit of 300 words.
   - 3% Identification of a problem
   - 1% Use of appropriate tools
   - 2% Solution framework
   - 6% Solution
   - 3% Explanation

B. Class Test: Portion of Final Marks: 10%
   Two written tests will be conducted that will comprise 45 min duration and cover 4 weeks of material. Approximately half of the questions will aim at explaining and applying a model.

C. Quiz: Portion of Final Marks: 10%
   Two combined written/oral assessments, on the ability to explain basic concepts of preferences, utility and cost curves, asking 5 questions to each student.

D. Group Work: Portion of Final Mark: 10%
   In groups of 4, students will be tasked with applying the concepts of general equilibrium and welfare analysis in the form of a case study. Report word limit: 600 words.

1% Situation analysis
1% Methodology of group work
5% Discussion on findings in the joint report
3% Peer review of individual reports

E. Midterm Examination: Portion of Final Mark: 15%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	15%
B. Class Test	2	10%
C. Quiz	1	10%
D. Group Work	1	10%
E. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**60%**
Semester-End Examination (SE)		**40%**

Pre-requisites: CET101 Introductory Microeconomics

Subject matter:

1. Consumer Theory
   - 1.1. Preferences, utility, utility functions and indifference curves
   - 1.2. Budget constraint and consumer's choice (apply optimisation approach for problem solving)
   - 1.3. Demand
   - 1.4. Revealed preference-WARP and SARP
   - 1.5. Income offer curves and Engel curve
   - 1.6. Slutsky equation, compensated demand curve, net and gross demand, offer curve
   - 1.7. Choice under uncertainty; expected utility function
   - 1.8. Risk and inter-temporal choice; risk aversion; asymmetrical information
   - 1.9. Consumer's surplus; compensating and equivalent variation; producer's surplus
2. Market
   - 2.1. Construction of market demand
   - 2.2. Inverse demand function
   - 2.3. Elasticity of demand; constant elasticity demand; relation between AR, MR and price elasticity
   - 2.4. Supply; inverse supply function
   - 2.5. Comparative statics
   - 2.6. Deadweight loss
3. Producers Theory
   - 3.1. Technology and isoquants
   - 3.2. Cobb Douglas production function
   - 3.3. Production with one and more variable inputs
   - 3.4. Returns to scale
   - 3.5. Types of costs; short run and long run costs: TC, AC, AVC, AFC and MC
   - 3.6. Revenue: TR, AR and MR
   - 3.7. Review of perfect competition
4. General Equilibrium
   - 4.1. Edgeworth box and Pareto Efficiency
   - 4.2. Algebra of equilibrium; Walras' law, Existence of equilibrium
   - 4.3. Equilibrium and efficiency; algebra of efficiency
   - 4.4. Efficiency and welfare Equilibrium
   - 4.5. Efficiency under pure exchange and production
   - 4.6. Overall efficiency and welfare economics
5. Market Structure and Game Theory
   - 5.1. Monopoly; pricing with market power
   - 5.2. Price discrimination; peak-load pricing; two-part tariff

5.3. Profit maximising decisions under monopolistic competition and oligopoly
5.4. Game theory and competitive strategy

6. Externalities and Market Failure
6.1. Production and consumption externalities
6.2. Quasilinear preferences and Coase theorem
6.3. Three interpretations of externalities
6.4. Tragedy of commons
6.5. Networking externalities and their implications
6.6. Public goods, private provision of public goods, different levels of public goods
6.7. Free riding, voting, demand revelation, Clarke tax
6.8. Market for lemons, adverse selection, Moral hazard
6.9. Signalling and incentives

Reading List:

1. Essential Reading
   1.1. Pindyck, R., Rubinfeld, D. & Mehta P. (2009). *Microeconomics*. 7th Ed. Pearson.
   1.2. Varian, H.R. (2010). I*ntermediate Microeconomics: A Modern Approach.* W.W. Norton and Company/Affiliated East-West Press (India). The workbook by Varian and Bergstrom may be used for problems.
2. Additional Reading
   2.1. Bernheim, B.D. & Whinston, M.D. (2009). *Microeconomics*. Tata McGraw-Hill (India).
   2.2. Perloff, J.M. (2015). *Microeconomics*. Pearson.
   2.3. Snyder, C. & Nicholson, W. (2010). *Fundamentals of Microeconomics*. Cengage Learning (India).

Date: January 15, 2016

Module Code and Title: **CET103 Introductory Macroeconomics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General objective: The principal objective of this module is to help students learn basic macroeconomic principles and apply them to a variety of economic questions and issues. It provides integrated insights on classical, Keynesian and monetarist approaches. This module discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like aggregate demand, GDP, employment and inflation.

Learning outcomes – On completion of this module, learners should be able to:

1. Interpret and measure the main macroeconomic categories.
2. Apply an existing macroeconomic economic model to a given situation.
3. Employ the basics of comparative statics analysis.
4. Apply simple mathematics tools for multiplier analysis.
5. Analyse inflationary situations.
6. Distinguish between short- and long-run analyses and models.
7. Analyse and apply an IS-LM model to judge policy efficacy.
8. Describe the effects of basic types of macroeconomic policies in the short run.
9. Relate the IS-LM analysis to the AD-AS framework.

Learning and Teaching Approach: Lectures, tutorials, classroom experiments, case studies, problem solving and group activity will be used as primary activities for teaching and learning. Classroom experiments differ from classroom demonstrations, because the students are involved in

collecting data or observations. However, just as in an interactive classroom demonstration, students involved in classroom experiments can be asked to make predictions and to reflect upon their observations. The tutor will also relate the theories to Bhutanese economy. Students will be given assignments based on the application of macroeconomic models specifically to Bhutanese economy.

Approach	Hours per week	Total credit hours
Lectures	2.5	37.5
Tutorials and group work	1	15
Classroom experiments and problem solving	0.5	7.5
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignments (2): Portion of Final Marks: 20%
   Students will write two assignments on application/analysis of an existing macroeconomic model/policy. Each assignment, worth 10%, should have a maximum limit of 250 words.
   - 1% Statement of a problem
   - 2% Analytical framework
   - 5% Critical review
   - 2% Conclusion

B. Classroom experiment: Portion of Final Marks: 10%
   In groups of 4 students will conduct an experiment based on a database on balance of payment (such as to analyse long-term BOP trend), and simulate results with four alternative assumptions/scenarios.
   - 1% Identification of data needed
   - 3% Analytical Methods
   - 2% Identification of assumptions
   - 4% Simulation result analysis

C. Class test: Portion of Final Marks: 10%
   Problem solving on the topics covered in the last two weeks. Time: 45 minutes

D. Midterm Examination: Portion of Final Mark: 20%
   Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignments	2	20%
B. Classroom experiment	1	10%
C. Class test	1	10%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**60%**
Semester-End Examination (SE)		**40%**

Pre-requisites:

Subject matter:

1. Introduction to Macroeconomics
   - 1.1. Building macroeconomic models
   - 1.2. Concept of production boundary, circular flow of income
   - 1.3. Concepts of stocks and flows
   - 1.4. Measurement of gross domestic product; income and expenditure methods; real versus nominal GDP; price indices; GDP deflator
   - 1.5. National income accounting for an open economy
   - 1.6. Balance of payments: current and capital account
   - 1.7. Natural rate of unemployment, Job search and frictional unemployment, wage rigidity and wait unemployment
   - 1.8. Minimum wage, collective bargaining, efficiency wage, patterns of unemployment
   - 1.9. Okun's law

2. Business Cycles and Inflation
    2.1. Understanding business cycles
    2.2. Disinflation, deflation and liquidity trap
    2.3. Great depression, Post World War II business cycles
    2.4. Cyclical behaviour of economic variables: direction and timing
    2.5. Leading indicators
    2.6. High inflation, inflation and real money balances, seignorage
    2.7. Inflation and interest rate, Fischer effect
    2.8. Types of inflation: cost push inflation, demand pull inflation, hyperinflation
    2.9. Structuralism versus monetarism
    2.10. Costs of inflation; cost of expected and unexpected inflation
    2.11. Anti-inflationary policies, disinflation and the sacrifice ratio
3. Keynesian Model of income determination
    3.1. Classical and Keynesian systems; concept of equilibrium income
    3.2. Keynesian theory of consumption, concepts of MPC and APC
    3.3. Kuznet's puzzle
    3.4. Aggregate demand, Keynesian model of income determination
    3.5. Role of multiplier, multiplier process
    3.6. Introduction of the government, budget, balanced budget
    3.7. Limitation of multiplier process
4. IS-LM Framework
    4.1. Interaction between commodity and money market
    4.2. Commodity market equilibrium and derivation of IS curve, properties of IS curve
    4.3. Money market equilibrium and derivation of LM curve, properties of LM curve
    4.4. Simultaneous equilibrium
    4.5. Fiscal multiplier and monetary policy multiplier
    4.6. Crowding out and policy mix
    4.7. Monetary accommodation
    4.8. Derivation of AD curve

Reading List:

1. Essential Reading
    1.1. Blanchard, O. (2009). *Macroeconomics*. Pearson Education.
    1.2. Dornbusch, R., Fischer, S. & Startz, R. (2013). *Macroeconomics*, 12th Ed. McGraw Hill.
    1.3. Mankiw, N.G. (2009). *Macroeconomics*. Worth Publishers.
2. Additional Reading
    2.1. Abel, A.B. & Bernanke, B.S. (2011). *Macroeconomics*, Pearson Education, Inc.
    2.2. D'Souza, E. (2009). *Macroeconomics*, Pearson Education.
    2.3. Froyen, R.T. (2005). *Macroeconomics*. Pearson Education Asia.
    2.4. Krugman, P., Obstfeld, M. & Melitz, M. (2012). *International Economics*. Pearson Education Asia.

Date: January 15, 2016

Module Code and Title: **CET204 Public Economics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Tshering Lhamo Dukpa

General objective: Public economics aims to focus on the justification for public intervention and issues of economic efficiency and equity related to the study of government policy. The module deals

with the nature of government intervention and its implications for allocation, distribution and stabilization. It aims to introduce the students to a formal analysis of public finance.

Learning outcomes – On completion of this module, learners should be able to:

1. Explain the principal forms of market failure that provide a justification for government intervention.
2. Indicate the trade-offs captured by public economics models.
3. Identify the assumptions, relevance, and limitations of public economics models.
4. Discuss the design of tax structures using the concepts of efficiency and equity.
5. Analyse the role of public goods.
6. Undertake social cost and benefit analysis.
7. Review and the budgetary status of government.
8. Analyse fiscal policy.
9. Assess the arguments in policy debates.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, group work, case studies and self-directed study. Lectures will aim at explanation of various concepts and theories. Focus will be placed on applying theories to the Bhutanese context and using relevant data. Lectures will be complemented by tutorials and guest lectures. Tutorials will also be used to facilitate problem solving. Group work will usually consist of 4-5 students discussing and analysing a particular issue and solving a problem.

Approach	Hours per week	Total credit hours
Lectures and case studies	3	45
Tutorials and group work	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignments (2): Portion of Final Marks: 15%
   Two assignments will be given (7.5% each), one before and one after the mid-semester examination, based on library research covering topics related to fiscal functions of the government and provision of public goods. Each assignment should have a maximum limit of 300 words.
   - 1% Adequacy of references used
   - 1% Defining the concepts
   - 1% Use of effective analytical tools
   - 3.5% Solution
   - 1% Conclusion

B. Group Work: Portion of Final Mark: 15%
   A report on a group-based activity (groups of 4) involving time series data analysis on public finance in Bhutan. Report word limit: 500 words.
   - 1% Situation analysis
   - 2% Methodology of group work
   - 6% Discussion on findings in the joint report
   - 4% Peer review of individual reports
   - 2% Presentation (individually marked)

C. Case Study: Portion of Final Mark: 15%
   Each student to prepare a report on the social cost and benefit analysis of a public sector project (using real/hypothetical data). Word limit: 300 words.
   - 1% Structure of report
   - 3% Identification of appropriate social costs and benefits of the project
   - 3% Justification of methodology used
   - 5% Discussion of findings
   - 1% Presentation of findings
   - 2% Defence of the work in Q&A

D. Midterm Examination: Portion of Final Mark: 20%

Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignments	2	15%
B. Group Work	1	15%
C. Case study	1	15%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**65%**
Semester-End Examination (SE)		**35%**

Pre-requisites:

Subject matter:

1. Theoretical Tools of Public Finance
    - 1.1. Constrained Utility Maximization
    - 1.2. Putting the Tools to Work
    - 1.3. Equilibrium and Social Welfare
2. Public Economic Theory
    - 2.1. Fiscal functions: allocative, distributive and stabilisation, role of public expenditure and public debt
    - 2.2. Trade-off between different objectives
3. Externalities
    - 3.1. Externality Theory
    - 3.2. Private-Sector Solutions to Negative Externalities
    - 3.3. Public-Sector Remedies for Externalities
    - 3.4. Distinctions Between Price and Quantity Approaches to Addressing Externalities
    - 3.5. Mechanisms for Aggregating Individual Preferences; Public Choice Theory
4. Public Goods
    - 4.1. Optimal Provision of Public Goods
    - 4.2. Private Provision of Public Goods
    - 4.3. Public Provision of Public Goods
    - 4.4. Comparison of conditions for optimum provision of public and private goods
5. Cost-Benefit Analysis
    - 5.1. Measuring the Costs of Public Projects
    - 5.2. Measuring the Benefits of Public Projects
    - 5.3. Shadow Pricing
    - 5.4. Social Cost and benefit Analysis
6. Taxation
    - 6.1. The Three Rules of Tax Incidence
    - 6.2. Tax Incidence Extensions
    - 6.3. General Equilibrium Tax Incidence
    - 6.4. Optimal Commodity Taxation and Optimal Income Taxes
    - 6.5. Fundamental Tax Reforms
7. Fiscal stability
    - 7.1. Budgetary Deficit
    - 7.2. Deficit Finance
    - 7.3. Public Debt Management
    - 7.4. Sovereign funds

Reading List:

1. Essential Reading
    - 1.1. Gruber, J. (2013). *Public Finance and Public Policy*. Worth Publishers.
    - 1.2. Stiglitz, J. E. (2000). *Economics of the Public Sector*. W.W. Norton & Company, 3rd edition, 2000.
2. Additional Reading

2.1. Cullis, J. & Jones, P. (1998). *Public Finance and Public Choice*. Oxford University Press.
2.2. Musgrave R.A. & Musgrave, P.B. (1989). *Public Finance in Theory & Practice*. McGraw Hill Publications.
2.3. Rashid, H (2012). Understanding the Causes of the Rupee Shortfall: A Macroeconomic Policy Challenge for Bhutan and the Way Forward. Unpublished paper.
2.4. RGoB (of last five years). Budget report: Financial Year. Ministry of Finance.

Date: January 15, 2016

Module Code and Title: **CET205 Monetary Economics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Tshering Lhamo Dukpa

General objective: Principal objective of this module is to examine monetary policy in a closed economy. It aims to develop greater understanding of the role of money and monetary system, financial structures, relevant theories and polices.

Learning outcomes – On completion of this module, learners should be able to:

1. Discuss money demand functions, especially with reference to income and interest elasticities.
2. Describe the goals and tools of monetary policy.
3. Explain the effectiveness and limitation of monetary policies.
4. Explain and analyse the role of monetary authorities in controlling the money supply.
5. Assess the importance of the monetary base in monetary management.
6. Make an economic analysis of financial structures.
7. Trace the channels of monetary transmission.
8. Define term rates and yield curve.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, case studies and self-directed study. Lectures will aim at explanation of various concepts and theories, aided by tutorials. In classroom workshops, groups of 4-5 students will be given articles to critically review and discuss their opinions on with other groups.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and workshops	1	15
Independent study	3	60
Total		120

Assessment Approach:

A. Individual Assignments: Portion of Final Marks: 15%
   Two assignments will be given based on Bhutan relevant articles on monetary policy and financial structures; one each before and after the midterm examination (7.5%). Each assignment should have a maximum limit of 250 words.
   - 3.5% Summary of the article
   - 2% Identification of major issues raised in the article
   - 2% Key lessons learnt

B. Class Test: Portion of Final Marks: 10%

One written test will be conducted of 45 min duration and covering 4-5 weeks of material from the beginning of the module; the assessment will test learners' understanding of the basic concepts of the module.

C. Case Study (group work): Portion of Final Mark: 20%
Each group of 4 will prepare a report based on a case study on monetary management. The report shall have a maximum limit 600 words, with individual contributions of 150 words.
   - 2% Identification of the problem addressed in the case study
   - 2% Effective group work plan
   - 6% Individual reports
   - 2% Review of individual work by the group members
   - 8% Overall analysis in the joint report

D. Midterm Examination: Portion of Final Mark: 15%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignments	2	15%
B. Class Test	1	10%
C. Case study	1	20%
D. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**60%**
Semester-End Examination (SE)		**40%**

Pre-requisites: CET103 Introductory Macroeconomics

Subject matter:

1. Introduction to money and monetary economics
   - 1.1. Nature and functions of money
   - 1.2. Introduction to cash in advance (CIA)
   - 1.3. Money in the utility (MIU) functions
2. Money demand and supply
   - 2.1. Microeconomic determinants of the demand for money, demand for money functions
   - 2.2. Quantity theory of money
   - 2.3. Transaction theory of demand for money
   - 2.4. Friedman's restatement of quantity theory of money
   - 2.5. Monetary base; credit creation; movements in monetary base
   - 2.6. Monetary aggregates
   - 2.7. Velocity of money and its variability
3. The Classical school
   - 3.1. Neutrality of money and the Quantity theory
   - 3.2. The Classical dichotomy
   - 3.3. Walras' Law
   - 3.4. Introduction to money in a general equilibrium setting
4. Central Banking and the Conduct of Monetary Policy
   - 4.1. Role of Central Banks
   - 4.2. Central banks in global perspectives
   - 4.3. The Money Supply Process: High powered money, credit creation and money multiplier, narrow and broad money
   - 4.4. The Tools of Monetary Policy: Goals, targets, fractional reserve system, open market operation, bank rates and credit control
   - 4.5. The Conduct of Monetary Policy: Strategy and Tactics
   - 4.6. Transmission mechanism of monetary policy
   - 4.7. Flexible price economies and monetary policy
   - 4.8. Lucas supply functions and the effects of monetary policy
5. Commercial Banks
   - 5.1. Functions of commercial banks and non-banking financial institutions

5.2. Money market, instruments of money market- treasury bills, commercial bills, certificates of deposits, call money market, money market derivatives, analysis of bonds
5.3. Capital market and its functions

6. Financial Institutions
   6.1. An Economic Analysis of Financial Structure
   6.2. Banking and the Management of Financial Institutions
   6.3. Economic Analysis of Financial Regulation
   6.4. Structure and Competition of Banking Industry
   6.5. Current State of Financial Sector in Bhutan
   6.6. Financial Crises in Advanced Economies
7. Term structure of interest rates
   7.1. Yield curve
   7.2. Expectations hypothesis
   7.3. Segmentation hypothesis

Reading List

1. Essential Reading
   1.1. Bhole, H.M. (2004). *Financial Institutions and Markets: Structure, Growth and Institutions*. Tata McGraw Hill.
   1.2. Mishkin, F.S. & Eakins, S.G. (2009). *Financial Markets and Institutions*. Pearson Education.
2. Additional Reading
   2.1. Baye, M.R. & Jansen D.W. (1996). *Money, Banking and Financial Markets*. AITBS.
   2.2. Fabozzi, F.J., Modigliani F., Jones F.J. & Ferri M.G., (2009). *Foundations of Financial Markets and Institutions*. Pearson Education.
   2.3. Goodhart, C.A.E. (1989). *Money, Information and Uncertainty*. London: Palgrave Macmillan.
   2.4. Handa, J. (2009). Monetary Economics. Routledge.
   2.5. Kojo, N.C. (2005). *Bhutan: Power Exports and Dutch Disease*. Centre for Bhutan Studies, Thimphu.
   2.6. Lewis, M.K. & Mizen P.D. (2000). *Monetary Economics*. Oxford University Press
   2.7. Rashid, H. (2014). "*Understanding the Causes of the Rupee Shortfall: A Macroeconomic Policy Challenge for Bhutan and the Way Forward*. Unpublished draft retrieved at www.gnhc.gov.bt/wp-content/uploads/2012/06/Rupee-analysis-by-DESA.pdf

Date: July 1, 2016

Module Code and Title: **CET206 Intermediate Macroeconomics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General Objective: This module introduces formal and more advanced macroeconomics with analytical tools. It aims to equip students with the basic tools of short, medium and long-term macroeconomic analysis, both in autarchic and open economy frameworks. It aims to foster greater understanding of the processes, systems and institutions of that affect macroeconomic policies.

Learning outcomes – On completion of this module, learners should be able to:

1. Discuss and compare different macroeconomic policies.
2. Review policy effectiveness with the use of macroeconomic models.
3. Compare the impact of macroeconomic policies in the short and long run.

4. Analyse the relevance and importance of each assumption in a macroeconomic model.
5. Identify major policy trade-offs.
6. Describe micro foundations of macroeconomic models.
7. Describe major lags in macroeconomic policies.
8. Relate and apply macroeconomic theories to a local perspective.
9. Describe a data set for problem solving.
10. Delineate and analyse the channels of transmission of monetary and fiscal policies.

Learning and Teaching Approach: Lectures, tutorials, classroom experiments, case studies, problem solving and group activity will be used as primary activities for teaching and learning. Classroom experiments differ from classroom demonstrations because the students are involved in collecting data or observations. However, just as in an interactive classroom demonstration, students involved in classroom experiments can be asked to make predictions and to reflect upon their observations. The tutor will also relate the theories to the Bhutanese economy. Students will be given assignments based on the application of macroeconomic models specifically to Bhutanese economy.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials, classroom experiments, and problem solving	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignments (2): Portion of Final Marks: 25%
Assignments will be based on analyses and comparison of alternative macroeconomic policies and relates them to the Bhutanese economy. Each assignment (12.5%) should have a maximum limit of 400 words.
   - 3% Identification explicit and implicit assumptions
   - 5.5% Clear distinction between different macroeconomic policies
   - 3% Analytical discussion
   - 1% Proper structure of the assignment

B. Class experiment: Portion of Final Marks: 10%
Based on the use of a data set (on five key macroeconomic variables) supplied by the tutor, students will analyse the status of a macro economy.
   - 3% Relevance of analytical methods used
   - 6% Effective analysis
   - 1% Time management

C. Class Test: Portion of Final Marks: 10%
Students will take problem solving test on the topics covered in last two weeks, answering four questions- two on problem solving skills, one defining a model or its specific property, and one on graphical presentation of a situation. Time: 45 minutes.

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	2	25%
B. Class experiment	1	10%
C. Class test	1	10%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**65%**
Semester-End Examination (SE)		**35%**

Pre-requisites: CET103 Introductory Macroeconomics, CET205 Monetary Economics

Subject matter:

1. Aggregate Demand and Aggregate Supply Curves

1.1. Derivation of aggregate demand (AD) and aggregate and supply curves (AS)
1.2. Keynesian and Classical version of AS
1.3. Three models of AS
1.4. Interaction of AD and AS
1.5. Measuring crowding out using AD and AS framework

2. Policy ineffectiveness debate
   2.1. Relation between Inflation and unemployment
   2.2. Short and long run Philip curve
   2.3. Expectations Augmented Phillips curve
   2.4. Adaptive and rational expectations
3. Open Economy Models
   3.1. Short-run open economy models
   3.2. Exchange rate determination
   3.3. Mundell-Fleming model
   3.4. Purchasing power parity
   3.5. Asset market approach
   3.6. Dornbusch's overshooting model
   3.7. Monetary approach to balance of payments
   3.8. International financial markets
4. Micro Foundations
   4.1. Keynesian consumption function
   4.2. Fisher's theory of optimal inter-temporal choice
   4.3. Life-cycle and permanent income hypotheses
   4.4. Rational expectations and random-walk of consumption expenditure
   4.5. Fixed business investment- desired and actual stock of capital and accelerator model, Discounted cash flow approach, Tobin's Q theory
   4.6. Residential investment
   4.7. Inventory investment
5. Policy Analysis
   5.1. Fiscal Policy and Monetary Policy
   5.2. Expectations and policy, politics and policy
   5.3. Active or passive approaches
   5.4. Monetary policy- instruments, objectives and targets, policy implementation
   5.5. Rules versus discretion and time consistency
   5.6. Government budget constraint
   5.7. Government debt, arithmetic of deficit and debt, evolution of debt to GDP ratio
   5.8. Ricardian equivalence

Reading List:

1. Essential Reading
   1.1. Blanchard, O. (2009). *Macroeconomics*. Pearson Education, Inc.
   1.2. Mankiw, N.G. (2007). *Macroeconomics.* Worth Publishers.
2. Additional Reading
   2.1. Abel, A.B. & Bernanke, B.S. (2011). *Macroeconomics*. Pearson Education, Inc.
   2.2. D'Souza, E. (2009). *Macroeconomics*. Pearson Education. .
   2.3. Dornbusch, R., Fischer, S. & Startz, R. (2013). *Macroeconomics*, 12th Ed. McGraw Hill.
   2.4. Krugman, P.R., Obstfeld, M & Melitz, M. (2012). *International Economics*. Pearson Education Asia.
   2.5. Sheffrin, S.M. (1996). *Rational Expectations*. Cambridge University Press.

Date: January 15, 2016

Module Code and Title: **UGR201** **Research Methodology**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonal Mehta

General objective: The aim of this module is to provide the student with an understanding of research principles and a range of research methods and techniques. The module will enable students to define a clear research problem and select an appropriate method to answer the research question. This will enable students to develop the research skills and knowledge necessary to undertake an independent research project later in the programme.

Learning outcomes – On completion of this module, learners should be able to:

1. Formulate a clear and focused research problem.
2. Identify and apply appropriate research methods to a given problem.
3. Develop an effective research design.
4. Assess the internal and external validity in a research design.
5. Collect information and data in a scientific manner.
6. Present the results of research and its analysis in appropriate forms.
7. Identify the sources of biases in research.
8. Discuss ethical principles of research, ethical challenges and approval processes.
9. Briefly describe the general features of quantitative, qualitative and mixed methods approaches to research.
10. Identify the components of a literature review.
11. Critically analyse published research.
12. Explore current research within a specialist research area drawing on appropriate theoretical perspectives.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, classroom workshops, review of research papers, and self-directed study. Lectures will aim at explanation of various concepts and theories aided by tutorials. In classroom workshops, groups of 4-5 students will be given research papers to review and discuss their opinions regarding the research question, research methodology, and potential biases.

Approach	Hours per week	Total credit hours
Lectures	2	30
Tutorials and classroom workshops	2	30
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignments (2): Portion of Final Marks: 30%
   Students will complete two assignments (15% each) related to problem solving / modelling a given situation. Each assignment should have a maximum limit of 600 words.
   - 4% Clarity of concepts.
   - 7% Knowledge of alternative approaches
   - 4% Justification for the use of research design/sampling methods

B. Class Tests (2): Portion of Final Marks: 10%
   Two tests (5% each) will be administered to test the understanding of basic concepts taught over 4 weeks. Duration: 45 minutes each.

C. Research proposal: Portion of Final Mark: 45%
   Each student will develop a research proposal, and then make a 10 min presentation and defend it. Students must prepare a report of 2000 words and a presentation using a maximum of 7 slides within 5 minutes, with 5 additional minutes for Q&A.
   - 6% Clarity of research question
   - 5% Appropriate structure of report
   - 10% Suitable research design
   - 7% Suitable research methods

4% Incorporating ethical aspects
4% Addressing biases
4% Effective presentation
5% Effective handling of Q&A session

D. Midterm Examination: Portion of Final Mark: 15%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignments	2	30%
B. Class Tests	2	10%
C. Research Proposal	1	45%
D. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**100%**

Pre-requisites:

Subject Matter:

1. Introduction
   - 1.1 Defining Scientific Research; Scientific Method; Research Methods and Methodology
   - 1.2 Types of Research: exploratory, descriptive and exploratory
2. Thinking Like a Researcher
   - 2.1 Unit of Analysis
   - 2.2 Concepts and Constructs
   - 2.3 Variables: dependent, independent, moderating and control
   - 2.4 Propositions and Hypotheses
   - 2.5 Theories and Models; Inductive and Deductive Reasoning
   - 2.6 Defining a Research problem
3. Research Process
   - 3.1 A Very Brief Introduction to Paradigms of Social Research: positivism, post-positivism, ontology and epistemology
   - 3.2 Overview of the Research Process: observation, rationalisation and validation; Functionalistic Research Processes: exploration, research design and execution
   - 3.3 Literature Review: methodology, search, selecting information, critical review, referencing
4. Research Design
   - 4.1 Key Attributes: internal and external validity
   - 4.2 A Brief Introduction to Popular Research Designs: exploratory, experimental and quasi experimental, filed survey and secondary data analysis, case research, action research and ethnography
   - 4.3 Selecting Research Designs
5. Measurement Constructs
   - 5.1 Conceptualization and Operationalization
   - 5.2 Levels of Measurement: numeric, string,
   - 5.3 Scales: nominal, ordinal, interval, ratio and binary
   - 5.4 indexes
6. Sampling
   - 6.1 The Sampling Process: population, sample frame, sample
   - 6.2 Probability Sampling: simple random, systematic, stratified, cluster multi-stage sampling
   - 6.3 Non-Probability Sampling: convenience, quota, expert and snowball
   - 6.4 Statistics of Sampling: sampling distribution, confidence interval, sample size determination
7. Survey Research
   - 7.1 Questionnaire Surveys: types, response formats, content and wording, sequencing,

7.2 Interview Survey: key informant interviews, focused group, role of interviewer
7.3 Biases in Survey Research: non response bias, sampling bias, recall bias,

8. Experimental Research
   8.1 Very brief introduction of the basic concepts: treatment and control groups (students should be able to make a distinction between these designs)
9. Case research
   9.1 Selection of case sites
   9.2 Create Instruments: structured and unstructured interviews and select respondents
10. Research Ethics
   10.1 Importance of Research Ethics
   10.2 Ethical Principles in Scientific Research

Reading List:

1. Essential Reading
   1.1. Bhattacherjee, A. (2012). *Social Science Research: Principles, Methods and Practices*. Textbooks Collection, Book 3. Retrieved from http://scholarcommons.usf.edu/oa_textbooks/3
   1.2. Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. New Age International.
2. Additional Reading
   2.1. Becker, S. & Bryman, A. eds, (2004). *Understanding research for social policy and practice*. Policy Press.
   2.2. Bryman, A. (2012). *Social Research Methods*. Oxford University Press
   2.3. Dixon B.R., Bouma, G.D., Atkinson, G.B.O. (1987). *A Handbook of Social Science Research*. Oxford University Press.
   2.4. Kara, H (2015). *Creative Research Methods in Social Sciences: A Practical Guide*. CMP Poole.
   2.5. Seale, C., ed. (2004). *Social Research Methods*. Routledge.

Date: January 15, 2016

Module Code and Title: **CET207 International Economics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General objective: This module aims to provide an up to date and understandable analytical framework for international economics. It develops a systematic exposition of theories that explain the causes and consequences of international trade, and examines international trade policies and patterns. The module will focus on mathematical/econometrical treatment of the relevant models.

Learning outcomes – On completion of this module, learners should be able to:

1. Examine the economic importance of international trade.
2. Explain various trade theories.
3. Illustrate the effects of trade on labour allocation, outputs, and income distribution.
4. Explain the causes and consequences of international trade.
5. Evaluate different explanations of the links between trade, growth and development.
6. Identify the basic rationale for preferential trade areas.
7. Participate in debate on the issues pertaining to international trade and finance.
8. Describe the role of exchange rates in open economies.
9. Examine prevailing trade policies.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, case study, group work and self-directed study. Lectures will aim at explanation of various concepts and theories. Tutorials will be an integral part of the module, and it is expected that much of the learning and application of econometric concepts will be achieved through these. Students will also use cross sectional/ country specific case study for better understanding.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials, group work, and case studies	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Problem solving (2): Portion of Final Marks: 20%
   One each before and after mid semester examination, entailing analysis and application of theoretical framework in a given situation (worth 10% each) should have a maximum limit of 250 words.
   - 1% Adequacy of references used
   - 1% Defining the concepts
   - 2% Use of appropriate analytical tools
   - 4% Analysis and findings
   - 2% Conclusion

B. Class Test: Portion of Final Marks: 5%
   One written test will be conducted that will comprise 45 min duration. This will be a test of understanding of the concepts and the ability to apply the theoretical models; it should contain 10 MCQs and 5 fill-in-the-blanks type questions.

C. Group work: Portion of Final Mark: 20%
   In groups of 4, students will complete a case study on an issue related to international monetary system/ financial globalisation/ Welfare impact of trade policy. Report word limit: 500 words.
   - 2% Situation analysis
   - 3% Methodology
   - 9% Discussion on findings
   - 1% Adequate references
   - 2% Peer review (individually marked)
   - 3% Viva voce (individually marked)

D. Midterm Examination: Portion of Final Mark: 20%
   Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignments	2	20%
B. Class Test	1	5%
C. Group Work	1	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**65%**
Semester-End Examination (SE)		**35%**

Pre-requisites:

Subject matter:

(Note: In units 2, 4 and 6, the focus should be simple conceptual/ theoretical framework with graphical explanation and not mathematical treatment)

1. Introduction
   - 1.1. Nature and scope of international economics
   - 1.2. Overview of World Trade and Investment
   - 1.3. Gravity model

1.4. Impediments to trade-distance, barriers and borders

2. Theories of International Trade
    2.1. The Ricardian theory: concept of comparative advantage, misconceptions about comparative advantage
    2.2. Specific factors and Heckscher-Ohlin models, income distribution and gains from trade
    2.3. Standard trade model
    2.4. Factor reversals
    2.5. Factor price equalisation
    2.6. Leontief paradox
    2.7. New trade theories
    2.8. International location of production
    2.9. Gains from trade
    2.10. Firms in the global economy - outsourcing and multinational enterprises
3. External Economies of scale and international location of production
    3.1. Economies of scale and market structure
    3.2. Economies of scale and international trade
    3.3. Interregional trade and economic geography
4. Economic Growth and International Trade
    4.1. Model and basic formula
    4.2. Terms of trade
    4.3. Rybczynski Theorem
    4.4. Singer-Presbisch hypothesis
    4.5. Immiserisation of growth
5. Trade Policy
    5.1. Instruments of trade policy
    5.2. Theory of tariff
    5.3. Stopler-Samuleson Theorem
    5.4. Optimum tariff, tariffs and distortions in the markets
    5.5. Infant industry argument for protection, effective rate of protection
    5.6. Political economy of trade policy, case for free trade
    5.7. Controversies in trade policy: trade liberalisation, activist trade policy
    5.8. International negotiations in trade policy, Regional Trade Blocks
6. International Macroeconomic Policy
    6.1. Fixed versus flexible exchange rates
    6.2. Review of Balance of Payment
    6.3. Approaches to Balance of Payment, with a primary focus on the Bhutanese context
    6.4. International monetary systems
    6.5. Financial globalization and financial crises

Reading List:

1. Essential Reading
    1.1. Krugman, P., Obstfeld, M., & Melitz, M. (2012). *International Economics: Theory and Policy*. Addison-Wesley (Pearson Education Indian Edition).
    1.2. Salvatore, D. (2011). *International Economics: Trade and Finance*. John Wiley International Student Edition. .
2. Additional Reading
    2.1. Šodersten, B & Reed, G. (1994). *International Economics*, MacMillan.
    2.2. UNCTAD (Latest). *World Trade Report*. (Can be downloaded from the WTO website).
    2.3. UNCTAD (Latest). *World Investment Report*. (Can be downloaded from the WTO website).

Date: January 15, 2016

Module Code and Title: DEV201 Development Problems and Policies

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General objective: The module begins with a discussion of alternative conceptions of development and their justification. It then proceeds to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models. The axiomatic basis for inequality measurement is used to develop measures of inequality and connections between growth and inequality are explored. The module ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

Learning outcomes – On completion of this module, learners should be able to:

1. Describe various approaches to development.
2. Explain and analyse the historical perspective on economic growth.
3. Apply growth models to problem solving.
4. Explain and analyse inequality and poverty measurement approaches.
5. Apply different methodologies and approaches to poverty and inequality, and compare outcomes.
6. Discuss and examine the role of political institutions in economic development.
7. Provide logical and evidence based arguments to the debates on issues related economic development.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, classroom workshops, group work, debate, case studies and self-directed study. Lectures will aim at explanation of various concepts and theories. Focus will be placed on applying theories to the Bhutanese context, and using relevant data. Lectures will be complemented by tutorials, guest lectures and attending relevant conferences in Thimphu. Classroom workshops will be used for data analysis using alternative methodologies. Group work will involve students discussing and analysing a particular issue and undertaking debates with other groups. Tutorials will also be used to facilitate problem solving.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials, group work, and debates	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 10%
Students will explore how the long term growth trajectory affects development indicators and identify factors that are important for such changes. The assignment should have a maximum limit of 300 words.
   - 1% Adequacy of references used
   - 2% Defining the concepts
   - 3% Use of appropriate analytical tools
   - 7% Analysis and findings
   - 2% Conclusion

B. Group Work: Portion of Final Mark: 15%
Groups of 4 will complete a report based on an activity involving data analysis on poverty and inequality/ application of growth models/ cross sectional study on convergence. Report words limit: 750 words.
   - 1% Situation analysis
   - 2% Methodology of group work

6% Discussion on findings in the joint report
4% Peer review of individual reports
2% Presentation (individually marked)

C. Critical Essay: Portion of Final Mark: 20%
Each student will complete an essay on the issues pertaining to political institutions and role of the state in economic development. Word limit: 500 words.
2% Logical flow of thoughts
7% Ability to comprehend relevant issues in the debate
3% Evidence based arguments
1% Language skills
1% Subtleness of conclusion
1% Structure of the Essay

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	10%
B. Group Work	1	15%
C. Critical Essay	1	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**65%**
Semester-End Examination (SE)		**35%**

Pre-requisites:

Subject matter:

1. Conceptions of Growth and Development
   - 1.1. Meaning of growth and development; Modern economic growth;
   - 1.2. Historical perspective of growth: Rostow's stage theory
   - 1.3. Basic indicators of development
   - 1.4. Characteristics of developing world: diversity within commonality
   - 1.5. Development trajectories across nations and within them
2. Growth Models
   - 2.1. Structural change model (Lewis Model)
   - 2.2. Neo-classical counter revolution
   - 2.3. Big push strategy
   - 2.4. Harrod-Domar model
   - 2.5. Solow model and its variants
   - 2.6. Endogenous growth models and evidence on the determinants of growth
3. Development Problems and Policies
   - 3.1. Poverty and Inequality
     - 3.1.1. Measuring inequality: Four criteria for inequality measurement, Lorenz curve, Gini coefficient
     - 3.1.2. Inequality, income and growth: inverted-U curve hypothesis, uneven and compensatory changes
     - 3.1.3. Political redistribution and growth
     - 3.1.4. Absolute poverty: Extent and magnitude, Growth and poverty
     - 3.1.5. Poverty measurement: Head count ratio, poverty gap, FGT index, Human Poverty Index, Multi-dimensional Poverty Index
     - 3.1.6. Characteristics of the poor: demographic features, rural and urban poverty, women and children, assets, nutrition
     - 3.1.7. Mechanisms that generate poverty traps and path dependence of growth processes
     - 3.1.8. Approaches to poverty alleviation: redistribution, direct interventions
   - 3.2. Financing Development

3.2.1. Domestic resource mobilisation: Taxes, capital market, frontloading, internal borrowing
3.2.2. External finance : International aid, FDI and external borrowing
3.2.3. Innovative development financing

3.3. Political Institutions
3.3.1. Rationale for development planning
3.3.2. Relation between democracy and development
3.3.3. Alternative institutional trajectories and their relationship with economic performance
3.3.4. With-in country differences in the functioning of state institutions
3.3.5. State ownership and regulations
3.3.6. Government failure and corruption

Reading List:

1. Essential Reading
   1.1. Ray, D. (2009). *Development Economics*. Oxford University Press.
   1.2. Meier, G. M. & Rach, J.E. (2005). *Leading Issues in Economic Development*. 8th Ed. Oxford University Press.
   1.3. Todaro, M. P. & Smith, S. (2014). *Economic Development*. 12th Ed. Pearson.
2. Additional Reading
   2.1. Banerjee, A., Benabou, R. & Mookerjee, D. (2006). *Understanding Poverty*. Oxford University Press.
   2.2. Basu, K., edt. (2012. *The New Oxford Companion to Economics in India.* Oxford University Press.
   2.3. Dasgupta, P. (2007). *Economics: A Very Short Introduction*. Oxford University Press.
   2.4. Easterly, W. (2007). *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good*. Penguin.
   2.5. Putnam, R. (1994). *Making Democracy Work: Civic Traditions in Modern Italy.* Princeton University Press.
   2.6. Sachs, J. (2006).The End of Poverty: Economic Possibilities for Our Time. Penguin Books.
   2.7. Sen, A. (2000). *Development as Freedom*. Oxford University Press.
   2.8. UNDP (2012). Innovative Financing for Development: A New Model for Development Finance? Discussion Paper.

Date: January 15, 2016

Module Code and Title: **AEC201 Environmental Economics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonam Yeshey

General objective: This module focuses on economic causes of environmental problems. It examines the role of various economic institutions, economic incentives, other instruments and policies on environment. It aims to develop necessary skills for as the valuation of environmental quality, quantification of environmental damages and evaluation of environmental projects. Selected topics on international environmental problems are also discussed.

Learning outcomes – On completion of this module, learners should be able to:

1. Explain the nature of relationship between environment and economics.
2. Describe and analyse the market for environment.
3. Explain the factors leading to market failure.

4. Evaluate the environmental decisions made by economic agents.
5. Apply basic tools of environment accounting.
6. Describe and evaluate the regulatory framework for environmental issues.
7. Trace the policy response to various environmental issues.
8. Analyse the impact of risk and uncertainty on environmental decisions.
9. Identify the channels of impact on trade and environment.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, group work, case studies and self-directed study. Lectures will aim at explanation of various concepts and theories. Focus will be placed on applying theories to the Bhutanese context and using relevant data. Lectures will be complemented by tutorials and guest lectures. Group work will involve students discussing and analysing particular issues and solving problems. Tutorials will also be used to facilitate problem solving.

Approach	Hours per week	Total credit hours
Lectures and case studies	3	45
Tutorials and group work	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 10%
Students will complete an essay based on library research covering topics related to environment markets. Each assignment should have a maximum limit of 750 words.
   - 1% Adequacy of references used
   - 1% Defining the concepts
   - 2% Use of appropriate analytical tools
   - 4% Analysis and findings
   - 2% Conclusion

B. Group Work: Portion of Final Mark: 15%
In groups of 4 students will analyse data on locally relevant environment issues. The analysis will be presented as a 20 min presentation, with 5 min Q&A.
   - 1% Situation analysis
   - 2% Methodology of group work
   - 6% Discussion on findings in the joint report
   - 4% Peer review of individual reports
   - 2% Presentation (individually marked)

C. Critical Essay: Portion of Final Mark: 20%
Students will complete individual essays on recent issues pertaining to market for environment services and products and assessment of environment programmes. Word limit: 750 words.
   - 2% Logical flow of thoughts
   - 8% Ability to comprehend relevant issues in the debate
   - 4% Evidence based arguments
   - 2% Language skills
   - 2% Subtleness of conclusion
   - 2% Structure of the Essay

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	10%
B. Group work and presentation	1	15%
C. Critical essay	1	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**65%**
Semester-End Examination (SE)		**35%**

Pre-requisites:

Subject matter:

1. Introduction
    - 1.1. The Environment and Economics
    - 1.2. Normative and Positive Economic Analysis, Basic Optimist Model
    - 1.3. Changing perspectives on environment
    - 1.4. Resource, environment and economic development
2. Market for Environment
    - 2.1. Social Choice for Environmental Protection
    - 2.2. Efficiency and Markets; Market Failure
    - 2.3. Public Goods, Public Bads and Externalities
    - 2.4. Resource Allocation over the time
    - 2.5. Valuing the Environment
    - 2.6. Making Decisions about Environmental Programs
    - 2.7. Demand for Environmental Goods
    - 2.8. Hedonic Price Methods
    - 2.9. Household Production and constructed Markets
3. Ecological Economics and Environmental Accounting
    - 3.1. Basic concepts of ecological economics
    - 3.2. National income and Environment Accounting; Green accounting
4. Regulation
    - 4.1. Regulating Pollution; Prices
    - 4.2. Property rights
    - 4.3. Spatial and Temporal Issues
    - 4.4. Regulating Polluters with Unknown Costs
    - 4.5. Audits, Enforcement and Moral Hazard
    - 4.6. Voluntary Actions and Agreements
5. Policy response
    - 5.1. Global framework on sustainable development
    - 5.2. Greening the economy
    - 5.3. Climate change policy
    - 5.4. Trade and environment
6. Advanced Topics
    - 6.1. Risk and Uncertainty
    - 6.2. International and Interregional Competition
    - 6.3. Environment, Growth and Development

Reading List:

1. Essential Reading
    - 1.1. Kolstad, C. (2010). Intermediate Environmental Economics. Oxford University Press.
    - 1.2. Stavins, R. N., ed. (2005). *Economics of the Environment: Selected Reading List*. W.W. Norton.
2. Additional Reading
    - 2.1. Callan, S. J. & Thomas, J. M. (2010). *Environment Economics and Management: Theory, Policy and Applications*. South-western Cengage Learning.
    - 2.2. Harris, J. & Roach, B. (2014). *Environmental and Natural Resource Economics: A Contemporary Approach* Routledge.
    - 2.3. Perman, R., James, Y. M., McGilvray & Common, M. (2003). *Natural Resource and Environmental Economics*. Pearson Education/Addison Wesley.

Date: January 15, 2016

Module Code and Title: DEV202 World Economic History

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General Objective: The main purpose of this module is to trace the progress of the world economy in the last two millennia. It aims to identify the forces that explain the success of the western countries and explore the obstacles that hindered advancement in regions that lagged behind. The module also provides an understanding of the evolution of the world economy and development policies over time.

Learning outcomes – On completion of this module, learners should be able to:

1. Trace the evolution of the world economy in modern history.
2. Evaluate the impact of differential growth rates on development levels.
3. Analyse the historical role of the state and institutions in economic development.
4. Examine the effect of demographic and social factors on growth processes.
5. Identify the importance of technological choices and innovations.
6. Describe economic lessons learned by the world from historical experiences.
7. Identify the long term impacts of major crises (e.g., wars and downturns) on economic growth.
8. Discuss the arguments on either side of the debate relating to neo-classical reforms.
9. Explain the importance of alternative approaches to development.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, debates, case studies and self-directed study. Lectures will aim at explanation of various concepts and theories. Tutorials and laboratory work will be an integral part of the module, and it is expected that much of the learning and application of econometric concepts will be achieved through these tutorials and laboratory work. The focus of learning would be enhancing student's ability to understand each model and its underlying assumption so that they can apply right model and make correct interpretation. It is also expected that students will spend additional hours of reading, problem solving and econometric estimation each week.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and debates	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 15%
   Students will write one essay based on library research covering topics covered in the preceding four weeks. The assignment should have a maximum limit of 400 words.
   - 1% Adequacy of references used
   - 2% Defining the concepts
   - 3% Use of appropriate analytical tools
   - 7% Analysis and findings
   - 2% Conclusion

B. Group Work: Portion of Final Mark: 15%
   Groups of 4 will complete a report based on an activity involving time series data analysis on the development differences in the since European miracle. Report word limit: 500 words.
   - 1% Situation analysis
   - 2% Methodology of group work
   - 6% Discussion on findings in the joint report
   - 4% Peer review of individual reports
   - 2% Presentation (individually marked)

C. Critical Essay: Portion of Final Mark: 15%

Each student will complete an essay on the issues pertaining to any relevant topic after the mid-semester. Word limit: 750 words.

2% Logical flow of thoughts
7% Ability to comprehend relevant issues in the debate
3% Evidence based arguments
1% Language skills
1% Subtleness of conclusion
1% Structure of the essay

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	15%
B. Group Work	1	15%
C. Critical Essay	1	15%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**65%**
Semester-End Examination (SE)		**35%**

Pre-requisites:

Subject matter:

1. World Economy in the Pre-Modern Economic Epoch (before 1800)
    1.1. Conquests and settlements
    1.2. International trade and capital movements
    1.3. Technologies and Institutional Innovations
    1.4. Nature and Welfare implications of Population changes
    1.5. Impact of the incidence of Disease, Hunger and War
    1.6. Changes in GDP per Capita and its Regional Dispersal
2. Impact of Western Development (1800-1945)
    2.1. Asia falling behind and European Emergence
    2.2. Creation of Modern national State
    2.3. Institutions Supporting Merchant Capitalism
    2.4. The Industrial Revolution: Drivers and Impact on Global Economy
    2.5. Role of Invisible Hand; Emergence of Free Trade; Globalisation
    2.6. Colonial Exploitation
    2.7. Acceleration in Technical Progress and Real Income Growth
    2.8. Great Depression and Revival of Activist Intervention
3. World Economy in the post War Period (1950 onwards)
    3.1. Marshall Plan and European Miracle
    3.2. Decolonisation and Travails of Third World
    3.3. Asian Miracle
    3.4. African Atrophy
    3.5. Debt crisis of 1980s and Structural Reforms
    3.6. Neoclassical Revival; Catching Up and Convergence
4. Emergence of Alternative Approaches to development
    4.1. Dissatisfaction with the Mainstream Approach
    4.2. Alternative approaches- Measurable Economic Welfare, Basic needs approach, human development approach, Sen's capability approach, sustainable development, participatory approach
    4.3. Some Global initiatives: "GNH" of Bhutan, "Measure of Sustainable Development' by Global sustainability panel, "National Wellbeing" in UK, "GDP and beyond" European Commission project and "Better Life Initiative" of OECD
    4.4. Concept of GNH: Pillars, Domains and Indicators; socio-cultural predisposition towards GNH; Balancing Needs and Wants; Policy response; GNH Index

Reading List:

1. Essential Reading
    1.1. Maddison, A. (2001).*The World Economy: A Millennial Perspective*. OECD, Paris
    1.2. Cameron, R. & Neal, L. (2003); *A Concise Economic History of the World: From Paleolithic times to present*. Oxford University Press
2. Additional Reading
    2.1. Harvey (2005). *A Brief History of Neoliberalism*. Oxford University Press.
    2.2. Beaud, M. (2001). *A History of Capitalism, 1500-2000*. trans. by Tom Dickman and Anny Lefebvre. New York: Monthly Review Press.
    2.3. Jomo, K.S. (ed.) (2006).*The Long Twentieth Century: The Great Divergence: Hegemony, Uneven Development and Global Inequality*. Oxford University Press.
    2.4. Hobbsbawm, E. J. (1999). *Industry and Empire: The Birth of Industrial revolution*. New Press, New York.
    2.5. RGoB (1999). Bhutan 2020: *A Vision for Peace, Prosperity and Happiness*. Planning Commission.
    2.6. RGoB (2013). Happiness towards a New Development Paradigm: Report of the Kingdom of Bhutan. Secretariat for New Development Paradigm.
    2.7. Sen, A. (2000). *Development as Freedom*. Oxford University Press.

Date: January 15, 2016

Module Code and Title: **DEV303 Development Process and Institutions**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General Objective: This module covers a theoretical/conceptual framework of development processes and institutions. It examines mutually reinforcing processes and institutions that affect human choices, and the effectiveness of development interventions. The module aims to develop analytical tools that help to understand the roles of demographic processes, market structures, social and economic institutions that affect economic development.

Learning outcomes – On completion of this module, learners should be able to:

1. Describe the role of institutions in economic development.
2. Identify the role of demographic processes in economic development.
3. Evaluate demographic trends.
4. Analyse the impact of agrarian relationships on productivity.
5. Evaluate the framework of financial services in the rural and informal sectors.
6. Explain the role of collective action and social capital in the process of economic development.
7. Define sustainability and trace linkages between poverty, environment and climate change.
8. Effectively participate in the debate on the impact of globalisation.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, classroom workshops and self-directed study. Lectures will aim at explanation of various concepts and theories aided by tutorials. Relevant Bhutan-specific issues will be discussed by the tutor. Classroom workshops will be used for the analyses of demographic data and its policy implications.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and classroom workshops	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignments (2): Portion of Final Marks: 30%
One each before and after mid semester examination, students will complete assignments on the use of demographic data for analysing policy implications, and review the role of tailor-made financial services for the informal sectors. Each assignment (worth 15%) should have a maximum limit of 500 words.
   - 2% Adequacy of references used
   - 2% Defining the concepts
   - 3% Use of effective analytical tools
   - 5% Analysis and discussion on findings
   - 3% Conclusion

B. Class Test: Portion of Final Marks: 10%
One written test will be conducted that will comprise 45 min duration and cover 4 weeks of materials.

C. Group Work: Portion of Final Mark: 15%
In groups of 4, students will develop a report on a Bhutan-specific case study, by selecting any relevant topic. Report word limit: 700 words. The written report will be followed by a 20 min group presentation.
   - 1% Situation analysis
   - 2% Methodology of group work
   - 6% Discussion on findings in the joint report
   - 4% Peer review of individual reports
   - 2% Presentation (individually marked)

D. Midterm Examination: Portion of Final Mark: 15%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignments	2	30%
B. Class Test	1	10%
C. Group Work	1	15%
D. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites: DEV201 Development Problems and Policies, and DEV202 World Economic History

Subject matter:

1. Introduction
   - 1.1. Primacy of development process: inclusive, sustainable and integrative
   - 1.2. Role of institutions in economic development, interrelationship between institutions and development processes
   - 1.3. Types of institutions
2. Demography and Development
   - 2.1. Demographic concepts; birth and death rates, age structure, fertility and mortality
   - 2.2. Demographic transitions during the process of development
   - 2.3. Gender bias in preferences and outcomes and evidence on unequal treatment within households
   - 2.4. Connections between income, mortality, fertility choices and human capital accumulation
   - 2.5. Migration
3. Land, Labour and Credit Markets
   - 3.1. The distribution of land ownership
   - 3.2. Land reform and its effects on productivity
   - 3.3. Contractual relationships between tenants and landlords
   - 3.4. Land acquisition; nutrition and labour productivity

3.5. Informational problems and credit contracts
3.6. Microfinance
3.7. Inter-linkages between rural factor markets

4. Individuals, Communities and Collective Outcomes
   4.1. Individual behaviour in social environments and multiple social equilibria
   4.2. Governance in organizations and in communities
   4.3. Individual responses to organizational inefficiency
5. Environment and Sustainable Development
   5.1. Defining sustainability for renewable resources
   5.2. A brief history of environmental change
   5.3. Common-pool resources
   5.4. Environmental externalities and state regulation of the environment
   5.5. Economic activity and climate change
6. Globalization
   6.1. Globalization in historical perspective
   6.2. The economics and politics of multilateral agreements
   6.3. Trade, production patterns and world inequality
   6.4. Financial instability in a globalized world

Reading List:

1. Essential Reading
   1.1. Bardhan, P. (2006). Institutions in Development. In D. Clarke (ed). *The Elgar Companion to Development Studies* (pp.2-56). Edward Elgar Publishing.
   1.2. Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press.
   1.3. Ray, D. (2009). *Development Economics*. Oxford University Press.
   1.4. Rodrick, D., Subramanian, A., & Trebbi, F. (2004). Institutions Rule: The Primacy of Institutions over Geography and Integration in Development. *Journal of Economic Growth 9(2)*, pp. 131-165.
2. Additional Reading
   2.1. Banerjee, A., Benabou, R. & Mookerjee, D. (2006). *Understanding Poverty*. Oxford University Press.
   2.2. Bordo, M.D. Taylor, A. M., & Williamson, J. G. (Ed.). (2003). *Globalization in Historical Perspective*. University of Chicago Press.
   2.3. Rajan, R., (2010). *Fault Lines: How Hidden Fractures Still Threaten the World Economy. Princeton Press.*
   2.4. Rodrik, D. (2011). The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist. Oxford University Press.
   2.5. Schelling, T. (2006). Micromotives and Macrobehavior. W. W. Norton.

Date: January 15, 2016

Module Code and Title: **DEV304 Health Economics (Elective1)**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonam Yeshey

General objective: This module provides a microeconomic framework to analyse, among other things, individual choice in the demand for health, government intervention, and aspects of inequity and discrimination in the health sector. The importance of health in improving overall wellbeing is reflected in its inclusion among the Millennium Development Goals adopted by the United Nations member states. The module also examines economics of health innovations that are crucial to

expanding sustainable and relevant health care system. Focus will be placed on providing an overview of health issues in Bhutan.

Learning outcomes – On completion of this module, learners should be able to:

1. Describe concepts required in formulating and implementing a health care system.
2. Evaluate strategic choices in health care.
3. Identify and discuss equity and efficiency trade-offs in the provision of public health care.
4. Evaluate key options in the provisioning of health care services.
5. Compare international health policies.
6. Identify comparative views on solutions and best practices.
7. Identify key managerial issues in health care systems.
8. Analyse the regulatory framework for health care services.
9. Assess the quality of health care systems.
10. Identify the channels of economic and welfare impact of health policy.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, group work, case studies and self-directed study. Lectures will aim at explanation of various concepts and theories. Focus will be placed on applying theories to the Bhutanese context and using relevant data. Lectures will be complemented by tutorials and guest lectures. Group work will involve students discussing and analysing a particular issue and solving a problem. Tutorials will also be used to facilitate problem solving.

Approach	Hours per week	Total credit hours
Lecture and case studies	3	45
Tutorials and group work	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 10%
Each student will complete a written assignment related to introductory topics in health economics. Assignment should have a maximum limit of 500 words.
- 1% Adequacy of references used
- 1% Defining the concepts
- 2% Use of effective analytical tool
- 4% Analysis and discussion on findings
- 2% Conclusion

B. Group Work: Portion of Final Mark: 20%
In groups of 4, students will complete a case study on the nature of the supply of health care system. Report word limit: 500 words. The written report will be followed by a 20 min presentation.
- 2% Situation analysis
- 3% Methodology of group work
- 7% Discussion on findings in the joint report
- 5% Peer review of individual reports
- 3% Presentation (individually marked)

C. Critical Essay: Portion of Final Mark: 20%
Students will research and complete an essay on the issues related to the health behaviour of people in Bhutan. Word limit: 1000 words. The written essay will be followed by individual viva voce.
- 2% Logical flow of thoughts
- 7% Ability to comprehend relevant issues in the debate
- 3% Evidence based arguments
- 1% Language skills
- 1% Subtleness of conclusion
- 1% Structure of the essay
- 5% Viva

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	10%
B. Group Work	1	20%
C. Critical essay	1	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-Requisites: DEV201 Development Problems and Policies

Subject matter:

1. Introduction and Overview
    - 1.1. Importance of Health Economics
    - 1.2. Institutional Features of Health Care; Health Insurance
    - 1.3. Government Intervention in Health Care Markets
    - 1.4. Asymmetrical Information and Institutional Response
    - 1.5. Equity Efficiency Trade-off and role of Government
2. Health Behaviour
    - 2.1. Health Production Function, Health as a Capital Stock, Measuring Health Capital;
    - 2.2. Decision Making under Uncertainty
    - 2.3. Consumer Choices about Health Behaviours, General Framework of Health Choices, Behavioural economics critique
3. Demand for health care
    - 3.1. Demand in terms of Health Insurance Coverage, Concept of Time Price; Empirical Studies of Demand
    - 3.2. Income Effects on Demand for Care, Effect of Capitation on Use of Services
    - 3.3. Determinants of Demand for Personal Health Care Services, Demand for private health insurance
    - 3.4. Model of Demand for Insurance, Adverse Selection
    - 3.5. Welfare Analysis
4. Supply of Health Care
    - 4.1. Market for Physician Services
    - 4.2. Classification of Health care System-Cash System, Private System, Managed Competition System Single and Multiple Player System
    - 4.3. Medical Care Market, Alternative Models of Hospital Behaviour- profit maximizing Hospitals and Non Profit Hospitals
    - 4.4. Hospital Ownership and Performance, Regulation of Hospitals, Competition
    - 4.5. Medical Malpractices, Quality of Health Care and safeguards
5. Economics of Health Innovations
    - 5.1. Pharmaceuticals and the Economics of Innovation, Decision to Invest in R&D, Incentives for Pharmaceutical Innovation
    - 5.2. Pricing and new drugs; Patents and Public Policy Trade-off, Technology and Price of Health Care
    - 5.3. Health Technology Assessment
6. Health Policy
    - 6.1. Rationale for Public Provision for Health Care
    - 6.2. Beveridge Model: Nationalized Health Care and Social Health Insurance
    - 6.3. Population Aging and the Future of Health Policy
7. Public Health Economics
    - 7.1. Linkages between Health and Economic Sectors
    - 7.2. Impact of Health Care Financing on other Sectors
    - 7.3. Economics of Health Externalities
    - 7.4. Economic Epidemiology, Prospect Theory

Reading List:

1. Essential Reading
    1.1. Bhattacharya, J., Hyde, T. & Tu, P. (2013). *Health Economics*. Palgrave Macmillan.
2. Additional Reading
    2.1. William, J. (1999). *Principles of Health Economics for Developing Countries*. World Bank Institute Development Studies.
    2.2. World Bank (1993). *World Development Report: Investing in Health*.

Date: January 15, 2016

Module Code and Title: **DEV305 Rural Development: Concepts and Approaches (Elective 1)**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Tshering Lhamo Drukpa

General objective: This module deals with issues relating to economic development in the rural areas of developing countries. The module aims to identify factors driving rural change and reviews policies that help to attain the objective of rural development. Special attention is given to relating topics in the Bhutanese context.

Learning outcomes – On completion of this module, learners should be able to:

1. Identify key concepts in rural development.
2. Discuss the major debates in rural development.
3. Examine the role of agriculture policies in affecting rural development
4. Outline the main opportunities and constraints relating to the development of rural economies.
5. Describe the supply chain in agricultural products.
6. Evaluate the contribution of different sectors, policies, and actors to the process of rural development.
7. Examine policies relating to supply of rural services, such as infrastructure, finance, research and extension, health and education.
8. Analyse policy options in terms of their potential impact on rural poverty, equity and economic growth.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, case studies and self-directed study. Lectures will aim at explanation of various concepts and theories aided by tutorials. Relevant Bhutan specific case studies will be used as a learning tool.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and case studies	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignments (2): Portion of Final Marks: 20%
Two written assignments will be conducted, on each before and after midterm examination, on the topics covered in the preceding two weeks. Each assignment (worth 10%) should have a maximum limit of 500 words.
    1% Adequacy of references used

1% Defining the concepts
2% Use of effective analytical tool
4% Analysis and discussion on findings
2% Conclusion

B. Class Test: Portion of Final Marks: 10%
One written test will be conducted that will comprise 45 min duration and cover 4 weeks of material.

C. Group Work: Portion of Final Mark: 20%
Students will complete a group project based on a Bhutan-specific case study on any of the relevant topics. Report word limit: 1000. The written report will be followed by a 20 min presentation.
2% Situation analysis
3% Methodology of group work
7% Discussion on findings in the joint report
5% Peer review of individual reports
3% Presentation (individually marked)

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	2	20%
B. Class Test	1	10%
C. Group Work	1	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites: DEV303 Development Process and Institutions

Subject Matter:

1. Introduction:
   1.1. Concept and meaning, Basic elements of rural development
   1.2. Drivers of rural development: socio economic factors, environment challenges and institutions
2. Fundamentals of an Integrated Approach for Rural Development
   2.1. Approaches for rural development: exogenous and endogenous (Integrated) models, agrarian versus rural perspective, bottom up- top down approaches
   2.2. Tools and Approaches for Implementation of an Integrated Approach
   2.3.
   2.4. The Paradoxes of Integrated Development
   2.5. Rural Development and the Millennium Development Goals
3. Agriculture and Rural Development
   3.1. The Central Role of Agriculture, Green revolution
   3.2. Agro-Industries in Rural Areas, Sustainable Agriculture
   3.3. Land Use Practices and their Impact
   3.4. The Critical Role of Smallholder Agriculture, Role of Technology
   3.5. The Promise of Cooperatives and Contract Farming, Agricultural Extension
4. The Environment and Rural Development
   4.1. Environment as Cornerstone for Rural Development: Linking Sustainability to Growth and Equity, Sustainable Livelihood
   4.2. Natural Resource Management, Poverty and Environment Linkages
   4.3. Sustainable Rural Energy
5. Market Access and Rural Development
   5.1. Commodities, Markets, and Rural Development
   5.2. Supply Chain Management
   5.3. Rural Finance

6. Health and Education
    6.1. Health, Education, and Poverty
    6.2. Gender Dimensions of Rural development
    6.3. Population Issues, Reproductive Health, and the MDGs
7. Culture and Work
    7.1. Gender as Analytical Tool in Rural Development Framework
    7.2. Community based development Model: Building partnership for rural development, negotiation for partnership, Cooperatives
    7.3. Rural Urban Interface
    7.4. Participatory Approach to Local Governance

Reading List:

1. Essential Reading
    1.1. McAreavey, R. (2009). *Rural Development: Theory and Practice*. Routledge Studies in Development and Societies.
    1.2. Moseley, M. (2003). Rural Development: Principles and Practice. Sage publication.
2. Additional Reading
    2.1. ECOSEC (2003). *An Integrated Approach to Rural Development: Dialogues at the Economic and Social Council*.
    2.2. Mehta, S. (2012). *Growth Crisis in Bhutanese Agriculture Sector: An Exploratory Analysis of Causes*. Bhutan Journal of Research and Development, 1(1). pp. 51-60. Royal University of Bhutan.
    2.3. RGoB. (2008). *Tenth Five Year Plan: Main Document*. GNHC.
    2.4. RGoB. (2014). *Technical Evaluation Report: Rural Economy Advancement Programme Phase 1*. GNHC.

Date: January 15, 2016

Module Code and Title: **AEC302 Bhutanese Economy I**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonam Yeshey

Module Coordinator: Sanjeev Mehta

General objective: This module aims to provide an overview of the pattern of economic growth and accompanying structural changes in the Bhutanese economy during the periods of planned economic development. The focus of this module is on the analysis of inter-temporal changes in the major macroeconomic variables since 1961. This module will strengthen the ability of students to evaluate the role of development planning in Bhutan.

Learning outcomes – On completion of this module, learners should be able to:

1. Discuss the development process in Bhutan.
2. List the major objectives of five-year plans in Bhutan.
3. Evaluate the planned development process.
4. Analyse the time pattern of growth and accompanying structural changes.
5. Explain Bhutan's development strategy and link it with various objectives.
6. Trace the changing pattern of financing of the development plans in Bhutan.
7. Explain how poverty is measured in Bhutan.
8. Evaluate the methodological issues in poverty estimation.
9. Analyse the impacts of the patterns of international trade.

Learning and Teaching Approach: This module will be taught by means of lectures, guest lecturers, tutorials, classroom workshops, seminars and self-directed study. Lectures will aim at explanation of various concepts and theories aided by tutorials. Guest lecturers will be invited on the basis of expertise on a particular topic. Students will also attend any relevant seminar or conference organised in Thimphu. In classroom workshops, students will use secondary data to analyse the trends on various macro parameters of the Bhutanese economy, or review some of the relevant research papers and undertake debate on relevant issues.

Approach	Hours per week	Total credit hours
Lectures	2	30
Tutorials and classroom workshops	2	30
Independent study	4	60
Total		120

Assessment Approach:

A. Quizzes (3): Portion of Final Mark: 15%
   Students will take three written quizzes (worth 5% each) of 30 min duration, covering approximately 3 weeks of material.
B. Group presentation: Portion of Final Marks: 15%
   In groups of 4, students will research a topic related to the module. The analyses will be shared in 20 min presentations, followed by Q&A.
   - 2% Organization of the presentation (group mark)
   - 2% Comprehensiveness of content (group mark)
   - 2% Accuracy of content (group mark)
   - 3% Analysis and discussion (group mark)
   - 2% Peer review (individually assessed)
   - 2% Presentation clarity, tone, pace (individually assessed)
C. Viva voce: Portion of Final Marks: 5%
   One oral assessment, on the knowledge of basic facts and figures related to Bhutanese economy, asking 5-7 questions to each student.
D. Critical Essay: Portion of Final Mark: 15%.
   Students will write an essay on topics such as development strategy/ review of development plans/ financing of five year plans / methodological issues related to poverty measurement. Each essay should have a maximum limit of 750 words.
   - 2% Logical flow of thoughts
   - 7% Ability to comprehend relevant issues in the debate
   - 3% Evidence based arguments
   - 1% Language skills
   - 1% Subtleness of conclusion
   - 1% Structure of the essay
E. Midterm Examination: Portion of Final Mark: 20%
   Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Quizzes	3	15%
B. Group presentation	1	15%
C. Viva voce	1	5%
D. Critical essay	1	15%
E. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites:

Subject Matter:

1. Planned development

1.1. Strategic framework for planning
1.2. Objectives and strategies
1.3. Operationalizing GNH
1.4. Institutional and policy framework: role of GNH commission, local governments, resource allocation mechanism, NEC
1.5. Public private partnership
1.6. Review of the five year plans, with major focus on the current five year plan

2. Rate, Pattern and structure of growth since 1980
   2.1. Time pattern of the growth of national income and per capita income
   2.2. Sector specific growth rates
   2.3. Structural changes accompanying the growth
   2.4. Regional dispersal of growth
3. Financing of plans
   3.1. Changes in the pattern of financing of the five year plans
   3.2. Role of internal and external resources
   3.3. Rates and composition of saving and investment
   3.4. Role of international aid and assistance
4. Demographic changes
   4.1. Major demographic trends, review of population policy
   4.2. Major issues pertaining to quality of life of the population: health, education and malnutrition; rural urban migration
5. Poverty, inequality and unemployment
   5.1. Measurement of poverty (income and multi-dimensional poverty)
   5.2. Trends in inequality, poverty and unemployment in Bhutan
   5.3. Poverty alleviation and employment generation strategy
   5.4. Vulnerability and social protection practices
   5.5. Emerging role of civil society
6. International Trade
   6.1. Composition and direction of International trade
   6.2. Balance of trade and balance of payment
   6.3. External debt
   6.4. FDI

Reading List:

1. Essential Reading
   1.1. IMF (latest). Bhutan: Country Report.
   1.2. Mehta, S. (2009). *Nature and Structure of Bhutanese Economy*. Thimphu: KMT Press.
   1.3. RGoB (latest). *Mid-Term Review of Five Year Plan*. GNHC.
   1.4. UNICEF (2013). Bhutan Common Country Programme Document 2014-2018.
2. Additional Reading
   2.1. RGOB. Five Year Plan documents. GHNC.
   2.2. RGOB (1999); *Bhutan 2020: vision for peace prosperity and happiness*. Ministry of Planning.
   2.3. RGOB (Latest). *Annual Report*. Royal Monetary Authority.
   2.4. RGOB (Latest). *Poverty Analysis Report*. National Statistical Bureau.
   2.5. RGOB (2000). *National Account Statistics 1980-2000*. CSO, Planning Commssion
   2.6. RGOB (2001). *Household Income and Expenditure Survey 2000(Pilot): Report on Income and Expenditure, Poverty Measurement, and Socioeconomic Profile of the Households*. CSO, Planning Commission, Thimphu.
   2.7. RGoB (2010). *Bhutan Population and Development Situation Analysis*. GNHC.
   2.8. RGoB (2013). *Draft National Population Policy*. GNHC.
   2.9. RGoB (2013). *Draft Social Protection Policy for Workers in Bhutan*. MoLHR.
   2.10. RGoB (2014). *Technical Evaluation Report: Rural Economy Advancement Programme Phase 1*. GNHC.
   2.11. World Bank (1996). *Bhutan country economic memorandum, report no. 16113-BHU*.

Date: January 15, 2016

Module Code and Title: **QME304 Intermediate Econometrics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General objective: This module extends students' knowledge and understanding to more sophisticated econometric methods and techniques: simultaneous equations, binary regression models, time series analysis and panel models. The focus of this module will be on promoting understanding of the concepts and methods involved, as well as interpretation of computational (e.g., Stata) output, and not on abstract calculations.

Learning outcomes – On completion of this module, learners should be able to:

1. Develop relevant econometric models.
2. Evaluate the adequacy of a given model using a range of diagnostic tests.
3. Present results and provide clear interpretation of the results.
4. Make panel estimates and undertake diagnostic testing.
5. Critically analyse and evaluate the results of studies that have been undertaken by others using econometric techniques.
6. Engage in collaborative processes (formal or informal group works) to complete econometric modelling inquiry.
7. Apply econometric tools for empirical research.
8. Identify the strengths and weakness of the tools of econometric analysis.
9. Analyse sample data using econometric software.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, laboratory work, classroom workshops and self-directed study. Lectures will aim at explanation of various concepts and theories. Tutorials and laboratory work will be an integral part of the module, and it is expected that much of the learning and application of econometric concepts will be achieved through these tutorials and laboratory work. The focus of learning would be enhancing students' abilities to understand each model and its underlying assumption so that they can apply appropriate models and make correct interpretations. It is also expected that students will spend additional hours on reading, problem solving and econometric estimation each week. The computer laboratory classes will complement the lecture material by giving students the opportunity to perform a wide variety of econometric computations using a real-life economic data set. Laboratory exercises will lead up to an overall evaluation of both a particular model and choice of estimation method. Students are required, firstly, to consider what each exercise requires prior to attendance at the laboratory class and, secondly, to reflect afterwards for the tutorial on the results obtained.

Approach	Hours per week	Total credit hours
Lectures	2	30
Laboratory work and tutorials	2	30
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 10%
   Before mid-semester examination, students will complete an assignment to assess the understanding of the simultaneous equation model/binary regression model. Each assignment should have a maximum limit of 400 words.

1% Description of the model
1% Clearly identifying merits and limitation of the model
3% Selection of appropriate procedure to handle the model
3% Present result
2% Provide clear interpretation

B. Class Tests (2): Portion of Final Marks: 20%
Two written tests will be conducted that will comprise 45 min duration, 10% each, before and after the midterm examination. Students will be tested on their ability to make correct interpretations of panel or time series data / identify strength and weakness of any analysis of a given econometrics problem. Each test will consist of 5 questions.

C. Practical exercises (2): Portion of Final Mark: 20%
Two practical exercises (laboratory work) will be conducted-one before and another after midterm exams, worth 10% each. These will involve working on raw data using Stata, and application of a chosen econometrics model for analysis.
1% Loading data in Stata
1% Creation of project directory
4% Run econometric models along with required diagnostic tests
2% Convert Stata output into presentation format
2% Clear interpretation

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	10%
B. Class Tests	2	20%
C. Practical exercises (Laboratory work)	2	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites: QME103 Introductory Econometrics

Subject matter:
(*Note: abstract calculation is not required and focus should be on effective use of software and interpretation of results*)

1. Simultaneous Equations Estimation
   1.1. Inconsistency of OLS
   1.2. Use of instrumental variables
   1.3. Exact identification, under-identification and over-identification
   1.4. Two-stage least squares (TSLS)
   1.5. Order condition for identification
   1.6. Application of the Durbin–Wu–Hausman test
2. Binary Choice Models
   2.1. Logit, Probit and Tobit models
   2.2. Selection bias model
   2.3. Maximum likelihood estimation of the population mean and variance of a random variable
   2.4. Maximum likelihood estimation of regression coefficients
   2.5. Likelihood ratio tests
3. Time Series
   3.1. Static demand functions fitted using aggregate time series data
   3.2. Lagged variables
   3.3. Autoregressive distributed lag (ADL) models
   3.4. Error correction model
   3.5. Use of simulation to investigate the finite sample properties of parameter estimators for the ADL(1,0) model

3.6. Use of predetermined variables as instruments in simultaneous equations models using time series data

4. Autocorrelation
    4.1. Autocorrelation; Breusch–Godfrey Lagrange multiplier
    4.2. Durbin–Watson d, and Durbin h tests for autocorrelation
    4.3. AR(1) nonlinear regression
    4.4. Cochrane–Orcutt iterative process
    4.5. Autocorrelation with a lagged dependent variable
    4.6. Common factor test and implications for model selection
5. Panel Data Models
    5.1. Pooled OLS model
    5.2. Within-groups fixed effects model
    5.3. First differences fixed-effects model
    5.4. Least squares dummy variable model
    5.5. Random effects model
    5.6. Durbin–Wu–Hausman test

Reading List:

1. Essential Reading
    1.1. Dougherty, C. (2007). *Introduction to Econometrics*. Oxford University Press.
    1.2. Gujarati, D. N. & Porter, D. C. (2009). *Essentials of Econometrics*. McGraw Hill.
2. Additional Reading
    2.1. Kmenta, J. (2008). *Elements of Econometrics*. Indian Reprint, Khosla Publishing House.

Date: January 15, 2016

Module Code and Title: **DEV306 Behavioural Economics**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General objective: This module examines the psychological underpinnings of economic behaviour. It aims to develop a better understanding of the human responses to public policies and intervention programmes. It focuses on accurate assumptions about cognitive ability, social interaction, moral motivation, and emotional responses into economic modelling and explores the implications of these for human behaviour and economic outcomes.

Learning outcomes – On completion of this module, learners should be able to:

1. Identify important foundations to behavioural economics.
2. Assess the importance of the behavioural foundation for the understanding of economic behaviour.
3. Describe assumptions about human behaviour.
4. Examine the importance of economic behaviour.
5. Discuss policy implications of behavioural aspects.
6. Discuss research papers and articles that make use of the concepts and methods that are introduced in the module.
7. Apply the behavioural foundation to analyse the mainstream theoretical framework.
8. Describe how actual choices are made by economic agents.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, classroom workshops and self-directed study. Lectures will aim at explanation of various concepts and theories aided by tutorials. In classroom workshops, groups of students will be given an article to

critically review and discuss their opinions on with other groups, and also identify how the behavioural postulates are different from the conventional positions.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and group work/workshops	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 15%
Students will complete an assignment on the critical evaluation of the validity of the assumption of rationality and behavioural psychological foundations. The assignment should have a maximum limit of 500 words.
- 2% Introduction
- 3% Identification of relevant assumptions
- 5% Critical evaluation
- 3% Justification with suitable examples
- 2% References

B. Class Test: Portion of Final Marks: 10%
One written test will be conducted that will comprise 45 min duration and cover 4 weeks of material, on the basic understanding of the concepts.

C. Case study: Portion of Final Mark: 25%
Students will individually complete a case study on the how the actual choices are made by economic agents. Students can select the topic from among the options provided by the tutor. The cases, preferably, be related to policy response of the agents. Report word limit: 700 words. The report will be followed by a 5-10 min presentation and Q&A.
- 1% Adequacy of data collected
- 1% Situation analysis
- 2% Methodology
- 6% Analysis of the information/data
- 1% Data presentation
- 1% Reasoning on the deviation of behaviour from the ‘rationalist’ perspective
- 1% Identification of policy implications
- 1% Timely submission of the report
- 1% Structure of the report
- 5% Presentation of the report
- 5% Defence of the findings in Q&A session

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	15%
B. Class Test	1	10%
C. Case study	1	25%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites: CET101 Introductory Microeconomics, DEV201 Development Problems and Policies, DEV202 World Economic History

Subject Matter:

1. Introduction
   - 1.1. Nature and scope, methods
   - 1.2. Guessing game & rationality

1.3. Reference Dependent Preferences and Loss Aversion
1.4. Social Preferences, Hyperbolic Discounting, Naiveté and Self-Control
1.5. Projection Bias, Happiness and Adaptation, Heuristics and Biases
1.6. Inattention and Shrouding
1.7. Nudging and Framing
1.8. Behavioural Welfare Analysis

2. Individual Choice
   2.1. Decision making factors, Biases and paradoxes in decision-making
   2.2. Probability judgments& Monty Hall problem, Altruism
   2.3. Fairness, dictator and ultimatum games, voluntary payments
   2.4. Trust and trust game, Honesty
   2.5. Determinants Cooperation, prisoners' dilemma, public goods game
   2.6. Ways to cooperate
3. Discrimination
   3.1. Based on gender, race, religion, attractiveness
   3.2. Salience of nudge, policy intervention and less visible price components
4. Markets
   4.1. Competitive equilibrium, robustness, fairness, status concerns and repugnance as constraints on profit maximization
   4.2. Auctions: winner's curse, late bidding end rules

Reading List:

1. Essential Reading
   1.1. Congdon, W., Kling, J., & Mullainathan, S. (2011). *Policy and Choice: Public Finance Through the Lens of Behavioral Economics*. Brookings Institution Press: Washington, D.C.
   1.2. World Bank (2015). World Development Report 2015: Mind, Society and Behaviour.
2. Additional Reading:
   2.1. Behavioural Insights Team (n.d.). Retrieved from https://www.gov.uk/government/organisations/behavioural-insights-team
   2.2. Bernartzi, Shlomo & Thaler, R. (2004).*Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving*. *Journal of Political Economy*, 112(1), pp. 164-S187.
   2.3. Camerer, C., Babcock, L., Loewenstein, G. & Thaler, R. (1997). *Labor Supply of New York City Cabdrivers: One Day at a Time*. *The Quarterly Journal of Economics*, 112, pp. 407-441.
   2.4. Fehr, E. & Gachter, S. (2000). Fairness and Retaliation: The Economics of Reciprocity. *Journal of Economic Perspectives*, 14(3), pp.159-181.
   2.5. Gabaix, X, & Laibson, D. (2006). Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*. The Quarterly Journal of Economics, 121(2):* pp.505-540.
   2.6. Kahneman, D. & Tversky. A. (1979). *Prospect Theory: An Analysis of Decision under Risk.* Econometrica, 47(2), pp. 263-292.
   2.7. Laibson, D. (1997). Golden Eggs and Hyperbolic Discounting. *The Quarterly Journal of Economics*, 112(2), pp. 443-477.
   2.8. Rabin, M. (1998). *Psychology and Economics. Journal of Economic Literature*. 36(1), pp.11-46.
   2.9. Stefano, D. (2009). Psychology and Economics: Evidence from the Field. *Journal of Economic Literature 47(2*),:pp. 315-372.

Date: January 15, 2016

Module Code and Title: **CET308** **Advanced Economic Theories (Elective 2)**

Programme: BA Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General objective: The module is intended to help prepare students for higher studies in economics. The module places emphasis is on dynamic models, role of expectations, information, and implications of inter-temporal optimization. The module also deals with the solution concepts for normal form and extensive form games along with a variety of economic applications.

Learning outcomes – On completion of this module, learners should be able to:

1. Discuss contemporary advanced economic theory across a broad spectrum of microeconomic and macroeconomic topics.
2. Apply the theories to explain contemporary economic problems
3. Apply a theory to a specific problem.
4. Identify the types and sources of changes in macroeconomics.
5. Explain the techniques of inter-temporal optimisation.
6. Describe dynamic investment models.
7. Analyse the role of expectations in macroeconomic models.
8. Analyse the impact of international financial markets on domestic investment.
9. Differentiate between different types of games.
10. Apply pay-off matrices for decision making.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, classroom workshops, group work, and self-directed study. Lectures will aim at explanation of various concepts and theories. Tutorials will be an integral part of the module, and it is expected that much of the learning and application of econometric concepts will be achieved through these tutorials. The focus of the learning-teaching approach would be enhancing students' abilities to understand each model and its underlying assumption, so that they can apply appropriate models and make correct interpretations. It is also expected that students will spend additional hours on reading, problem solving and econometric estimation each week.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials, class workshops/group work	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 10%
Students will complete a review of a recent piece of primary literature related to modern economic theories and their applications. The assignment should have a maximum limit of 500 words.
   - 1% Brief background
   - 3% Description of the main findings
   - 3% Analysis of the methodology
   - 3% Critical review of the conclusions

B. Class Tests (2): Portion of Final Marks: 20%
Two written tests will be conducted that will comprise 45 min duration and cover 4 weeks of material. One test will cover topics from advance macroeconomic models and another from game theory.

C. Individual project: Portion of Final Mark: 20%
Project will be given after midterm exams. A student will be required to simulate a given model (macroeconomic/ microeconomic) and submit a report on simulation results using data supplied by tutor. Report word limit: 1000 words. The report will be followed up with a 10 min presentation, including Q&A.
   - 3% Description of the simulation model

2% Methodology
6% Discussion on findings
2% Timely submission of the report
2% Structure of the report
2% Presentation of report
3% Defence of the work in Q&A session

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	10%
B. Class Tests	2	20%
C. Individual project	1	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites: CET103 Introductory Macroeconomics, CET206 Intermediate Macroeconomics

Subject matter:

1. Review of Aggregate Supply-Aggregate Demand Model
   1.1. Aggregate labour market, adaptive expectations, nominal wage rigidities
   1.2. Aggregate demand, review of IS-LM model, effectiveness of fiscal and monetary policy
   1.3. Adaptive expectations hypothesis and stability in the AS-AD model
2. Rational Expectations and Implications for Economic Policy
   2.1. Rational expectations hypothesis, policy ineffectiveness proposition
   2.2. Overlapping wage contracts
3. Introduction to Dynamic Models
   3.1. Dynamic investment theory, investment subsidy
   3.2. Dynamic IS-LM model, open economy and international financial markets, Dornbusch overshooting model
4. Economic Growth
   4.1. Stylized facts; Solow-Swan model
   4.2. Ramsey model: phase diagram, efficiency properties of the Ramsey model, fiscal policy in the Ramsey model, Ricardian equivalence, some reasons for non-equivalence
   4.3. Endogenous growth, some issues in growth for open economies
5. Overlapping Generations Model
   5.1. Diamond-Samuelson model: equilibrium, dynamics and stability, efficiency
6. Normal form games
   6.1. Normal form, dominant and dominated strategies, dominance solvability
   6.2. Mixed strategies
   6.3. Nash equilibrium
   6.4. Symmetric single population games; applications
7. Extensive form games with perfect information
   7.1. Game tree, strategies
   7.2. Sub-game perfection
   7.3. Backward induction in finite games
   7.4. Commitment; bargaining, other applications

Reading List:

1. Essential Reading
   1.1. Blanchard, O. J. & Fischer, S. (2000). *Lectures on Macroeconomic*s. Prentice Hall of India Private Limited.
   1.2. Osborne, M. J. (2004). A*n Introduction to Game Theory*. Oxford University Press.

1.3. Romer, D. (2006). *Advanced Macroeconomics*. McGraw-Hill.

2. Additional Reading
   2.1. Barro, R. J. and Sala-i-Martin, X. (2007). *Economic Growth*. Prentice Hall of India Private Limited.
   2.2. Hoy, M et al. (2001). *Mathematics for Economics*. The MIT Press.
   2.3. Heijdra, B. J. (2009). *The Foundations of Modern Macroeconomics*. Oxford University Press.

Date: January 15, 2016

Module Code and Title: **DEV307 Financial Markets and Instruments (Elective 2)**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General objective: This module introduces students to the economics of finance. Some of the basic models used to benchmark valuation of assets and derivatives are studied in detail; these include the CAPM, and the Binomial Option Pricing models. The module ends with a brief introduction to corporate finance.

Learning outcomes – On completion of this module, learners should be able to:

1. Analyse basic theories of investment.
2. Simulate the investment decisions process.
3. Analyse a financial portfolio.
4. Assess the risk for the investors from a financial portfolio.
5. Calculate highest possible rate of return for a given level of risk.
6. Describe asset allocation processes.
7. Explain basic movements in stock prices.
8. Analyse the role of institutional arrangements in securities markets.
9. Distinguish between the various forms of derivatives instruments.
10. Apply the concepts of options and futures contracts for tactical portfolio strategies.
11. Explain what options and futures are, and their use as hedging instruments.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, case study, classroom workshops and self-directed study. Lectures will aim at explanation of various concepts and theories. Tutorials will be an integral part of the module, and it is expected that much of the learning and application of econometric concepts will be achieved through these tutorials. Students will also use cross sectional/ country specific case study for better understanding.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials, workshops, and case studies	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignment: Portion of Final Marks: 10%
   Each student will complete an assignment related to investment theory. Assignment should have a maximum limit of 400 words.
   1% Adequacy of references used
   2% Methodology Defining the concepts
   2% Use of effective analytical tool

4% Analysis and discussion on findings
1% Conclusion

B. Class Tests (2): Portion of Final Marks: 20%
Two written tests (10% each) will be conducted for 45 min durationeach and cover 4 weeks of material. Approximately half of the questions will aim at explaining and applying a model.

C. Individual project: Portion of Final Mark: 20%
The project will be given after midterm exams. A student will be required to prepare a complete report on a portfolio simulation project. Report word limit: 750 words.
3% Description of the simulation model
2% Methodology
7% Discussion on findings
2% Timely submission of the report
2% Structure of the report
2% Presentation of report
2% Defence of the work in Q&A session

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignment	1	10%
B. Class Tests	2	20%
C. Individual project	1	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites: DEV308 Industrial Economics

Subject matter:

1. Investment Theory and Portfolio Analysis (a. Deterministic cash-flow streams)
   1.1. Basic theory of interest, discounting and present value
   1.2. Internal rate of return; evaluation criteria, fixed-income securities
   1.3. Bond prices and yields, interest rate sensitivity and duration, immunization
   1.4. Term structure of interest rates, yield curves
   1.5. Spot rates and forward rates
2. Investment Theory and Portfolio Analysis (Single-period random cash flows)
   2.1. Random asset returns, portfolios of assets
   2.2. Portfolio mean and variance, feasible combinations of mean and variance
   2.3. Mean-variance portfolio analysis: the Markowitz model and the two-fund theorem
   2.4. Risk-free assets and the one-fund theorem
3. Options and Derivatives
   3.1. Introduction to derivatives and options
   3.2. Forward and futures contracts, options, other derivatives
   3.3. Forward and future prices, stock index futures; interest rate futures
   3.4. Use of futures for hedging, duration-based hedging strategies
   3.5. Option markets, call and put options; factors affecting option prices, put-call parity
   3.6. Option trading strategies: spreads, straddles, strips and straps, strangles
   3.7. Principle of arbitrage
   3.8. Discrete processes and the binomial tree model
   3.9. Risk neutral valuation
4. Corporate Finance
   4.1. Patterns of corporate financing: common stock, debt, preferences, convertibles
   4.2. Capital structure and the cost of capital
   4.3. Corporate debt and dividend policy
   4.4. Modigliani-Miller theorem

Reading List:

1. Essential Reading
    1.1. Copeland, T.E., Weston, J. F. & Shastri, K. (2003). *Financial Theory and Corporate Policy*. Prentice Hall.
    1.2. Luenberger, D. G. (1997*). Investment Science*. Oxford University Press, USA.
2. Additional Reading
    2.1. Brealey, R. A. & Myers, S.C. (2002). *Principles of Corporate Finance*. McGraw-Hill.
    2.2. Hull, J. C. (2005). Options*, Futures and Other Derivatives*. Pearson Education.
    2.3. Malkiel, B.G. (2003). *A Random Walk Down Wall Street*. W.W. Norton & Company.
    2.4. Ross, S. A., Westerfield, R. W. & Jordan, B.D. (2005). Fundamentals of Corporate Finance. McGraw-Hill.
    2.5. Sharpe, W., Alexander, G. & Bailey, J. (2003). *Investments*. Prentice Hall of India.

Date: January 15, 2016

Module Code and Title: **AEC303 Bhutanese Economy II**

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sanjeev Mehta

General objective: This module aims to consolidate students' knowledge about the Bhutanese Economy and develop their critical understanding of the relevant issues. This module will provide them with a broader understanding and critique of the regulatory framework, sector-specific development polices, and achievements.

Learning outcomes – On completion of this module, learners should be able to:

1. Examine the regulatory and policy framework governing the Bhutanese economy.
2. Analyse agrarian relations in Bhutan.
3. Identify the factors determining productivity of the agriculture sector.
4. Explain the framework of the monetary policy of Bhutan.
5. Review the performance of financial institutions in Bhutan.
6. Describe the role of social and physical infrastructure.
7. Participate in public discourse on the issues related to the Bhutanese economy.

Learning and Teaching Approach: This module will be taught by means of lectures, guest lectures, tutorials, classroom workshop, seminar and self-directed study. Lectures will aim at explanation of various concepts and theories aided by tutorials. Guest lecturers will be invited on the basis of expertise on a particular topic. Students will also attend any relevant seminar or conference organised in Thimphu. In classroom workshops, students will use secondary data to analyse the trends on various macro parameters of the Bhutanese economy or review some of the relevant research papers and undertake debate on relevant issues.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials and class workshops	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Group debate (1): Portion of Final Marks: 20%

Students will be divided into groups of 3 to participate in a debate on themes related to regulatory and policy framework, roles and contributions of financial institutions, monetary policy. Each group is expected to turn in a short written report (500 words) detailing their research preparation (individual write ups should be attached as appendix) for the debate a week before their debate is scheduled.

- 3% Report on debate preparation (Group mark)
- 4% Organization and clarity (Group mark)
- 5% Arguments (Including examples provided; Individual mark)
- 3% Rebuttal (Group mark)
- 5% Presentation Style (Individual mark)

B. Quizzes (3): Portion of Final Marks: 15%
Students will take 3 quizzes (5% each) of 30 min duration, covering approximately 3 weeks of material, to test their knowledge of basic facts and figures related to the Bhutanese economy.

C. Critical Essay: Portion of Final Mark: 15%
Each student shall write one critical essay. The essay should focus on a topic of current interest related to Bhutanese economy/ economic policy. Word limit: 1000 words.

- 2% Logical flow of thoughts
- 3% Ability to comprehend relevant issues in the debate
- 7% Evidence based arguments
- 1% Language skills
- 1% Subtleness of conclusion
- 1% Structure of the Essay

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Group debate	1	20%
B. Quizzes	3	15%
C. Critical essay	1	15%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites: AEC302 Bhutanese Economy I

Subject Matter:

1. Macroeconomic Policies and their Impact
   - 1.1. Review of major policies: fiscal, trade, investment and monetary, other regulatory framework
2. Agriculture
   - 2.1. Agrarian relationship, agrarian structure and technology
   - 2.2. Agricultural growth and productivity
   - 2.3. Agricultural finance and capital formation
   - 2.4. Infrastructure
   - 2.5. Agricultural marketing
   - 2.6. Review of agricultural policy
3. Industry
   - 3.1. Review of industrial policy framework
   - 3.2. Rate and pattern of industrial growth
   - 3.3. Industrial dispersal
   - 3.4. Problems and prospects of industrialization
   - 3.5. Roles of public and private sector
   - 3.6. Cottage and small scale industry
4. Banking and Finance
   - 4.1. Royal Monetary Authority and its functions
   - 4.2. Monetary policy framework

4.3. Review of key deployment and reforms
4.4. Growth and performance of commercial banks and NBFIs
4.5. Financial inclusion
4.6. Role and scope of micro finance

5. Public Finance
   5.1. Budget policy and fiscal framework, resource allocation mechanism, multi-year rolling budget
   5.2. Public expenditure: compositions and trend, public expenditure management system
   5.3. Public revenue: composition and trend
   5.4. Budget deficit, public debt
6. Social and physical infrastructure
   6.1. Health and education
   6.2. Roads and Transportation
   6.3. Communication
7. Energy Sector
   7.1. Review of hydroelectricity policy and renewable energy policy
   7.2. Patterns of financing of hydro power projects
   7.3. Socio economic impact of hydro power project
8. Tourism
   8.1. Development of the tourism policy in Bhutan
   8.2. Economic impact of the tourism sector
   8.3. Debates and trends in the tourism policy

Reading List:

1. Essential Reading

   1.1. Ghimiray, M. (1993). *Comparison of Traditional and Modern Farming System in Bhutan: Background Paper*. NEC, Bhutan.
   1.2. Energy policy of Bhutan.
   1.3. Mehta, S. (2012). "Growth Crisis in the Bhutanese Agriculture Sector: An Exploratory Analysis of the Causes", "Bhutan Journal of Research and Development" of Royal University of Bhutan, vol.1, no. 1, spring 2012, ISSN 1321-4585.
   1.4. RGOB (2013). Eleventh Five Year Plan: Main Document. GNHC.
   1.5. RGOB (2008). Tenth Five Year Plan: Main Document. GNHC.
   1.6. RGOB (2012). Cottage, Small and Medium Industry Policy of the Kingdom of Bhutan. Ministry of Economic Affairs.
   1.7. RGOB (2010). Economic Development Policy. Ministry of Economic Affairs.
   1.8. RGOB (2008). Royal Charter for Druk Holding and Investment. DHI.
   1.9. RGOB (2010). FDI Policy. Ministry of Economic Affairs.
   1.10. BDFC (different years). Annual Report on Agriculture Credit. Thimphu.
   1.11. RGOB (1999). *Bhutan 2020: Vision for Peace Prosperity and Happiness*. Ministry of Planning.
   1.12. RGOB (2000); National Account Statistics 1980-2000, CSO, Planning Commssion
   1.13. RGOB (different years); Selected Economic Indicators, Royal Monetary Authority.
   1.14. RGOB (different years); Annual Budget Report, Ministry of Finance.
   1.15. Sen Gupta, B. (1999). "Bhutan: Towards a grass-root participatory policy". Konark Publishers Pvt. Ltd. New Delhi.
   1.16. Selected issues of CBS journal.
   1.17. Yetsho, T. (2010). Memoirs of Agrarian Reforms in Bhutan: An Exploratory History Based on Oral History. International Institute of Social Studies. The Hague.

Date: January 15, 2016

Module Code and Title: DEV308 Industrial Economics

Programme: BA in Development Economics

Credit Value: 12

Module Tutor: Sonam Yeshey

General objective: This module provides an introduction to current theory and empirical framework in industrial economics. It examines the internal structure of firms, various aspects of their strategic interaction, and determinants of industrial structure. The module aims to provide analytical skills required to examine problems in industrial economics.

Learning outcomes – On completion of this module, learners should be able to:

1. Describe the pricing behaviour of firms with market power.
2. Examine the welfare implications of the pricing decisions of firms.
3. Discuss analytical models of firm behaviour and strategic interaction.
4. Explain the implications of the separation of ownership and control in modern large companies.
5. Explain the notions of transaction costs and their relevance for the theory of the firm.
6. Explain the notions of investment and its relevance for the theory of the firm.
7. Analyse the effectiveness entry barriers created by firms.
8. Describe and derive the Bertrand paradox.
9. Discuss the basic determinants of market structure and the key issues in competition policy and regulation.

Learning and Teaching Approach: This module will be taught by means of lectures, tutorials, group work, case studies, classroom workshops and self-directed study. Lectures will aim at explanation of various concepts and theories. Tutorials will be an integral part of the module, and it is expected that much of the learning and application of econometric concepts will be achieved through these. Students will also use cross sectional/ country-specific case studies for better understanding.

Approach	Hours per week	Total credit hours
Lectures	3	45
Tutorials, workshops/group work, case studies	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Individual Assignments (2): Portion of Final Marks: 20%
Two written assignments will be conducted, on each before and after midterm examination, on the topics covered in the preceding two weeks. Each assignment (worth 10%) should have a maximum limit of 750 words.
   - 1% Adequacy of references used
   - 1% Defining the concepts
   - 2% Use of effective analytical tool
   - 4% Analysis and discussion on findings
   - 2% Conclusion

B. Class Test: Portion of Final Marks: 10%
One written test will be conducted that will comprise 45 min duration and cover 4 weeks of material.

C. Case study: Portion of Final Mark: 20%
Students will complete a group project based on a Bhutan-specific case study on any of the relevant topics. The cases should be related to policy response of the agents. Report word limit: 750 words. The written report will be followed by a 20 min presentation.
   - 1% Adequacy of data collected
   - 1% Situation analysis
   - 2% Methodology
   - 6% Analysis of the information/data

1% Data presentation
1% Reasoning on the deviation of behaviour from the 'rationalist' perspective
1% Identification of policy implications
1% Timely submission of the report
1% Structure of the report
2% Presentation of the report (individually assessed)
3% Defence of the findings in Q&A session (individually assessed)

D. Midterm Examination: Portion of Final Mark: 20%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester.

Areas of assignments	Quantity	Weighting
A. Individual Assignments	2	20%
B. Class Test	1	10%
C. Case study	1	20%
D. Midterm Examination	1	20%
Total Continuous Assessment (CA)		**70%**
Semester-End Examination (SE)		**30%**

Pre-requisites: CET103 Introductory Macroeconomics

Subject matter:

1. Theory of the firm
   - 1.1. Size and structure of firms
   - 1.2. Technological view of the firm
   - 1.3. Transaction costs-property rights approach
   - 1.4. Investment specificity
   - 1.5. Incomplete contracts and vertical integration and their empirical evidence
2. Separation of ownership and control
   - 2.1. Managerial incentives
   - 2.2. Limits to managerial discretion
   - 2.3. Foundations of the profit-maximization hypothesis
3. Firm conduct and market structure
   - 3.1. Short-run price competition and the Bertrand model
   - 3.2. Bertrand competition with capacity constraints
   - 3.3. Cournot model
4. Dynamic price competition
   - 4.1. repeated interaction
   - 4.2. Collusion and cartel stability
   - 4.3. Theories of price wars
   - 4.4. Empirical analysis of market power and collusive behaviour
5. Entry deterrence and entry accommodation
   - 5.1. First-mover advantages and the value of irreversible decisions
   - 5.2. Strategies to deter entry
   - 5.3. Strategic substitutability vs. complementarities
   - 5.4. Taxonomy of business strategies
6. Vertical restraints
   - 6.1. Efficiency explanations for vertical restraints
   - 6.2. Vertical and horizontal externalities
   - 6.3. Vertical restraints as instruments that restrict competition
   - 6.4. Empirical evidence
7. Competition policy and regulation
   - 7.1. Competition policy
   - 7.2. Current issues in competition policy
   - 7.3. Industrial policy towards R&D
   - 7.4. Regulation of firms with market power under symmetric information
   - 7.5. Regulation under asymmetric information

7.6. Liberalisation and regulation

Reading List:

1. Essential Reading
    1.1. Church, J.R. & Ware, R. (2000). *Industrial Organization: A Strategic Approach*. McGraw-Hill.
    1.2. Tirole, J. (1988). *The Theory of Industrial Organization*. Cambridge, MIT Press.
2. Additional Reading
    2.1. Armstrong, M., Cowan, S. & Vickers, J. (1994). Regulatory Reform. Cambridge, MIT Press.
    2.2. Belleflamme, P. & Peitz, M. (2010). *Industrial Organization: Markets and Strategies*. Cambridge University Press. .
    2.3. Bolton, P., Brodley, J.F., & Riordon, M.H. (n.d.) Predatory Pricing: Strategic Theory and Legal Policy. Department of Justice, USA. http://www.justice.gov/atr/predatory-pricing-strategic-theory-and-legal-policy
    2.4. Hinde, K. (n.d.) Kevin Hinde's Cyber Economics Tour. Retrieved from http://www.kevinhinde.com (for instructor's resources).

Date: January 15, 2016

Module Code and Title: **UGR302 Economics Research Project**

Programme: BA in Development Economics

Credit Value: 24

Module Tutor: Sanjeev Mehta, Sonam Yeshey, Sonal Mehta, Tshering Lhamo Dukpa

Module Coordinator: Sanjeev Mehta

General objective: The module aims to enable students to engage in a focused and sustained piece of research within the field of enquiry of economics, and to enable students to apply the theoretical knowledge and skills developed in other modules to the research process, including ethical procedures (UGR201) and quantitative techniques (QME101, QME203 and QME304) for the production of a written project report.

Learning outcomes – On completion of this module, learners should be able to:

1. Plan and conduct a research project.
2. Critically evaluate current research within a specialist research area drawing on appropriate theoretical perspectives.
3. Identify and review relevant literature.
4. Develop focused research questions.
5. Select and use suitable methods and analyses to examine research questions appropriate to the research area.
6. Collect data using methods appropriate to the area of work.
7. Identify and evaluate ethical constraints and conduct research.
8. Effectively communicate and defend their research work.
9. Produce a complete undergraduate thesis.
10. Reflect on the research process to propose possible alternative approaches and future directions.
11. Meet deadlines and milestones for a complex long-term project.

Learning and Teaching Approach:

Role of Supervisors

The primary function of the supervisor is to provide overall and general guidance to help student to develop a logical and rational basis for research. Key functions expected of the supervisor:

1. Assist the student: to clarify the topic; to be clearly focused and not be over-ambitious; and to advise the student on the viability of ideas.
2. Direct the student to relevant areas of information, literature sources and specialised internal/external help.
3. Advise on appropriate methodologies/techniques.
4. Advise on referencing style and the problem of plagiarism.
5. Maintain regular supervisory contact with the student.
6. Regularly monitor the student's work. Supervisors should keep a written log of the opportunities for formal work offered to students and encourage students to keep a written record of all supervisory contact/support noting key points of discussion.
7. Assist the student in managing the timetable of the project.
8. Assist the student in identifying when problems are liable to be encountered and how they might be tackled.
9. Ensure the student is made aware of inadequate progress, standards of work below the expected level or any assessments which do not reach the required standard - consistently unsatisfactory progress should be made known to the student in writing.
10. Read and comment on drafts of the thesis and return such work with constructive criticism and in reasonable time.

Role of Students

The prime responsibility for the management of the project rests with the student who, must maintain dialogue with the supervisor. The responsibility for the work submitted is entirely that of the student. The student will:

1. Manage the relationship with his/her supervisor, keeping in regular contact with him/her as planned.
2. Discuss with the supervisor the type of guidance and feedbacks that he/she finds most helpful;
3. Agree a schedule of meetings with the supervisor for reports/briefing on progress, ensuring the agreed schedule is adhered to and any deadlines met.
4. Take the initiative in discussing any problems with the project work and/or its supervision so that these can be resolved as soon as possible.
5. Keep a diary of work conducted related to the project. This would include: notes on discussions/correspondence with supervisor(s) and any other internal/external specialists; literature read and comments; ideas/designs; results of tests/experiments; problems found and solutions; equipment details and settings; project costs; resources used; diagrams, plans, sketches, photographs; raw data; etc.
6. Submit the thesis report and/or other items in the specified format.

Semester	Approach	Hours per week	Total credit hours
V	Lecture	1	15
	General supervision	2	30
	Independent study (including literature review and work on research proposal)	3	45
	Field work / data collection	2	30
VI	General supervision	2	30
	Field work / data collection	2	30
	Data analysis	2	30
	Report writing	2	30
	Total		240

Assessment Approach:

Students' performance will be assessed by several elements of continual assessment throughout the 3rd year. The first element consists of a Log-book, as an examinable record of personal input to the project. Next, there will be two panel meetings at which student's project will be discussed with a panel of staff members, the second of which will include a formal presentation of the research work by the student. Between these meetings and shortly before the winter vacation, students will be

required to submit a progress report, together with log-book recording the activities, for assessment by the Module Coordinator and the supervisor. Finally students will submit two copies of the final project report, for which detailed instructions will be provided in the procedure issued at the start of the project cycle.

Semester V

A. Research Proposal: Proportion of final marks (15%)
   Students must complete a research proposal that clearly addresses the linkage between research question and research methodology and ensures that ethical considerations are incorporated. Word limit: 3000 words.
   - 3% Clear and focused research question
   - 3% Sound theoretical framework
   - 2% Ethical consideration
   - 3% Appropriate Research method
   - 2% Effective Sample plan
   - 2% Work plan

B. Literature review: Proportion of final marks (10%)
   Guide should check the notes of the students to ensure all the recommended literature is covered and important elements are noted down.
   - 2% Breadth of coverage
   - 4% Ability to analyse and synthesize major arguments in the reviewed literature
   - 2% References noted down in appropriate format

C. Adhering to time schedule: Proportion of final marks (3%)
   Checking the progress of the work, whether it is consistent with the work plan. (Student should be regularly use a log book for maintaining records– supervisor will cross check with student's log book).
   - 2% Timely submission of research proposal
   - 1% Timely review of literature

D. Meeting supervisor regularly for guidance: Proportion of final marks (2%)
   - 1% Providing updates coherently at regularly scheduled meetings
   - 1% Timely response to all the relevant academic communication

Semester VI

E. Quality of data collected: Proportion of final marks (5%)
   To ensure that data is adequate to answer the research question, data gap does not exist, quality of data is reliable and data is representative.
   - 3% Adequacy of data
   - 2% Reliability of data

F. Draft report: Proportion of final marks (15%)
   Submission of comprehensive report (thesis) in the desired format.
   - 1% Timely submission
   - 2% Appropriateness of the structure of report
   - 2% Referencing
   - 8% Quality and clarity of discussion on finding
   - 1% Language
   - 1% Conclusion

G. Final report: Proportion of final marks (40%)
   - 25% Research question is answered effectively and scientifically
   - 10% Effective handling of the feedback on draft report
   - 2% Timely submission of the report
   - 3% Submission of all the necessary documents and equipment

H. Presentation and defence of the findings: Proportion of final marks (10%)
   Each student will make 15 minutes presentation to the four external examiners (not the research guide) on the report/ thesis and face Q&A session.
   - 3% Effective presentation
   - 7% Effective defence of the findings and over all work in Q&A session

Areas of assignments	Quantity	Weighting
A. Research proposal	1	15%
B. Literature review	1	10%
C. Adhering to time schedule	1	3%
D. Meeting supervisor regularly for guidance	1	2%
E. Quality of data collected	1	5%
F. Draft report	1	15%
G. Final report	1	40%
H. Presentation and defence of the findings	1	10%
Total Continuous Assessment (CA)		**100%**

Pre-requisites: UGR201 Research Methodology, QME101 Mathematics for Economics, and QME304 Intermediate Econometrics

Subject Matter:

The research project will start in the fifth semester and will continue in the sixth semester.

For this module, every student is required to study a specific topic under the supervision of a member of the academic staff. This is laid down as a compulsory element of the degree programme. The work will be of an investigative nature and may have analytical, numerical, design and experimental elements involved in it. The initiative for carrying out all aspects of the work rests with each student. Individual students can carry out an investigation into a problem either chosen from a list of suitable problems proposed by the supervisor or of their own suggestion, in which case, it must be approved by the supervisor.

Projects will have to be taken up individually. A student project will lead to the production of a written report, referred to as a thesis. A project can be based on primary data or secondary data or both. Students will be required to research on any relevant topic, with the support of their supervisor, in order to develop a research question and to design a study. Supervisor's support will continue through data collection, data analysis and the discussion of results. A series of teaching sessions covering ethics, methods, analyses and writing from both qualitative and quantitative perspectives will be provided in addition to supervisory support. Students are expected to use at least one major econometric tool to analyse the data

Semester	Tasks to be performed
V	1. Identify the research question(s) 2. Undertake literature review and maintain notes 3. Determine an appropriate research method 4. Design sample plan (if any) 5. Determine the variables to be studied 6. Prepare a research proposal 7. Data collection
VI	1. Data collection (to be continued, if so needed) 2. Arrange and Analyse the data 3. Prepare a draft report 4. Improve upon the draft report based on feedbacks 5. Submit the final report 6. Present and defend the findings

Reading List: As per the requirements of individual projects.

Date: January 15, 2016

Module Code and Title: **PRD101 Personal Development**

Programme: BA in English Studies (borrowed)

Credit Value: 12

Module Tutor: Tshering Dolkar

General objective: Students starting their degree programme with a plan are much more likely to successfully complete their education and have fruitful careers. This module aims to help students succeed by discovering their personal mission, setting goals, prioritizing tasks and working well with others. The module introduces students to common features of several widely known paradigms of personal development over three broad areas: personal (inner) mastery, interactions with others and the outer world, and continuous improvement. As a popular example of a recent adaptation of these common features, the module largely follows Stephen Covey's The Seven Habits of Highly Successful People with relevant activities and discussions, providing students with a comfortable forum in which to reflect individually, practice/apply the module contents, and learn teamwork skills. Students should gain confidence in their abilities to implement individual processes for managing time, setting meaningful goals, and monitoring progress towards achieving them.

Learning outcomes – On completion of this module, learners should be able to:

1. Trace the commonalities of various recent frameworks and models for personal development and their similarities with more ancient philosophies such as Buddhism.
2. Identify the fundamentals of effective interpersonal relationships.
3. Examine effective interactions between various relationships.
4. Interpret cross-cultural interpersonal relationships.
5. Define the connections between knowledge, skill, desire and habits.
6. Prioritize short- and long-term personal goals.
7. Clarify actions necessary to achieve short- and long-term personal goals.
8. Allocate time and resources to achieve short- and long-term goals in a balanced manner.
9. Identify, appraise and evaluate risk, risk mitigation, risk estimation.
10. Systematically evaluate and appraise one's personal, professional and interpersonal effectiveness.
11. Identify mechanisms to improve one's personal, professional, and interpersonal effectiveness.

Learning and Teaching Approach:

Approach	Hours per week	Total credit hours
Lecture & discussions: 2 x 2hr blocks comprising: review of prior topics, introduction to a new topic, practice time (~1 hr), and debrief/reflection time at the end.	4	60
Independent study	4	60
Total		120

Assessment Approach:

A. Quizzes: Portion of Final Marks: 20%
   Short written individual quizzes (4 x 5%) of 30 min duration each, covering approximately 3 weeks of subject matter. Assessment is based on factual accuracy of the answers.
B. Written assignments: Portion of Final Mark: 20%
   Take-home exercises (2 x 10%), one covering time management and one covering goal setting. Time management (10%): Students should complete a week-long activity log (2.5%), a time management matrix (importance vs. urgency) (2.5%), and time management self-assessment worksheet (2.5%) along with a 300-500 word reflection essay on the activity (2.5%). Goal setting exercise (10%): Students should identify and define in their own words values important to them (2.5%), then use these as the basis for a personal goal setting

exercise, with three each of short- (2.5%), medium- (2.5%) and long-term goals (2.5%) in a SMART format.

C. Viva voce: Portion of Final Marks: 10%
Individual interview with students assessing their level of application of class topics, particularly on ability to reflect on their own progress. 5% - ability to provide examples of and reflect on personal development; 5% - ability to provide examples of and reflect on interpersonal interactions demonstrating topics covered in the module.

D. Class participation and preparedness: Portion of Final Mark: 10%
Students will be expected to participate substantially in class discussions, with contributions reflecting adequate preparation for topics under discussion. 5% of class participation and preparedness will be assessed before midterm and the remaining 5% post midterm. Assessment will be based on the 'Participation and Preparedness' rubric.

E. Role plays: Portion of Final Mark: 10%
In-class demonstrations (2 x 5% per student) in pairs or groups on interpersonal interactions.

F. Group multimedia project and presentation: Portion of Final Mark: 30%
Students will complete a project in groups of 3-4 on developing a video of 10 min duration on select social issues; group assessment is 10% on video and 10% on presentation; individual assessment component: 10% on reflective diary (750-1000 words) on group work and making of the video.

Areas of assignments	Quantity	Weighting
A. Quizzes	4	20%
B. Written assignments	2	20%
C. Viva voce	1	10%
D. Class participation and preparedness		10%
E. Role plays	2	10%
F. Group multimedia project and presentation	1	30%
Total Continuous Assessment (CA)		**100%**

Pre-requisites:

Subject matter:

1. Personal development: an introduction
    - 1.1. Overview of the concept of personal development
    - 1.2. Importance and applications of personal development in personal, academic, and professional settings
    - 1.3. Paradigms and principles in personal development: commonalities in different approaches (e.g. concept of inner mastery and outer impact, self-discipline, resilience and adaptability)
        - 1.3.1. Overview of personal development principles in Eastern cultures
            - 1.3.1.1. Brief background on concepts from Eastern philosophies relevant to personal development (with particular emphasis on contributions from Buddhism), such as mindfulness practices and their application in personal development and professional contexts, including applications for stress-reduction, optimizing performance, enhancing creativity
            - 1.3.1.2. Skills and qualities essential for effective personal development and leadership: clarity, calm, concentration, deep listening, and resilience
            - 1.3.1.3. Alternative orientations concerning "self"; Minimizing self-importance; Importance of collective health and happiness; compassion for others
        - 1.3.2. Recent personal development paradigms with fundamental commonalities in approach (highlighting the basis in other intellectual and spiritual models such as the ideas and ideals of Buddhism)

1.3.2.1. Overview of “Emotional Intelligence” concept of Daniel Goleman
1.3.2.2. Overview of “Personal Leadership: Inner Mastery – Outer Impact” concept of Hitendra Wadhwa
1.3.2.3. Overview of “The Seven Habits”, Stephen Covey

2. Independence / Inner mastery / Private victory
    2.1. Selections from Eastern wisdom highlighting the significance of inner power
        2.1.1. Introduction to Dzongsar Jamyang Khyentse Rinpoche’s *Not for Happiness*; potential value of genuine spiritual practice for personal development (close reading of tutor-selected excerpts)
        2.1.2. Introduction to Ashok Arora’s *Meet Your Soul*; (close reading of tutor-selected excerpts)
    2.2. Features of emotional intelligence relevant to knowing and controlling oneself
        2.2.1. Self-awareness: Definitions and hallmarks
        2.2.2. Self-regulation: Definitions and hallmarks
        2.2.3. Motivation: Definition and hallmarks
    2.3. Principles and pillars of personal leadership relevant to inner mastery
        2.3.1. Purpose: Striving to have a clearly defined view of the personal motivation behind one’s actions; Identifying and letting inner values guide direction.
        2.3.2. Wisdom: Directing emotions, thoughts and beliefs; Importance of continually examining and, if needed, rescripting these.
        2.3.3. Self-Awareness/Self-Realization: Clearly understanding one’s thoughts, emotions, beliefs, mindsets and motivations.
    2.4. Habit 1: Be Proactive
        2.4.1. Self-awareness; Principles of Personal Vision
        2.4.2. The Social Mirror
        2.4.3. Between Stimulus and Response
        2.4.4. Proactivity Defined
        2.4.5. Taking the Initiative
        2.4.6. Act or be Acted Upon
        2.4.7. Listening to our Language
        2.4.8. Circle of Concern - Circle of Influence; Direct, Indirect and No Control; Expanding the Circle of Influence
        2.4.9. The “Have’s” and the “Be’s”
        2.4.10. The Other End of the Stick
        2.4.11. Making and Keeping Commitments
    2.5. Habit 2: Begin with the End in Mind
        2.5.1. What it Means to “Begin with the End in Mind”
        2.5.2. All Things are Created Twice
        2.5.3. By Design or Default
        2.5.4. Re-scripting: Becoming Your Own Planner
        2.5.5. Personal Mission Statement: Long Term Goals (LTG), Personal and Professional LTG, Steps Needed to Reach LTG, Planning of Steps to Reach LTG, Measuring Progress Towards LTG
        2.5.6. At the Center of Circle of Influence
        2.5.7. Alternative Centers of Influence
        2.5.8. Identifying Your Center of Influence
        2.5.9. A Principle Center
        2.5.10. Writing a Personal Mission Statement
        2.5.11. Using Your Whole Brain (Left vs. Right brain)
        2.5.12. Tapping the Right Brain
        2.5.13. Expand Perspective
        2.5.14. Visualization and Affirmation
        2.5.15. Identifying Roles and Goals
        2.5.16. Personal, Family, and other Organizational Mission Statements
    2.6. Habit 3: Put First Things First – Personal Management
        2.6.1. What is Personal Management

2.6.2. The Power of Independent Will
2.6.3. Four Generations of Time Management
2.6.4. Quadrant tool for time management – Important vs. Urgent; Managing Quadrants; Controlling Quadrants; Determining Quadrants
2.6.5. Fourth Generation of Time Management Skills: Time Management – Personal Management - Planning and Scheduling, Daily Schedule, Weekly/Monthly, Long Term Planning
2.6.6. Delegation: Delegating to Others; Delegating to Time; Two kinds of Delegation - Gofer vs. Stewardship

3. Interdependence / Outer impact / Public victory
    3.1. Features of emotional intelligence relevant to interpersonal interactions
        3.1.1. Empathy: Definitions and hallmarks
        3.1.2. Social skill: Definitions and hallmarks
    3.2. Principles and pillars of personal leadership relevant to outer impact: Love (universal appreciation and respect for others)
        3.2.1. Seeing others for their wholeness, rather than only as the role or function they serve
        3.2.2. Importance of connecting, supports, collaborating and communicating authentically with those around
        3.2.3. Shifting focus to a team's success rather than just one's own
    3.3. Concept of public victory
        3.3.1. Paradigms of Interdependence
        3.3.2. The Emotional Bank Account & Six Major Deposits: Understanding the Individual; Attending to Little Things; Keeping Commitments; Clarifying Expectations; Showing Personal Integrity; Apologizing Sincerely When You Make a Withdrawal
        3.3.3. Problems are Opportunities
        3.3.4. Habits of Interdependence
        3.3.5. Risk Taking: Types of Risk, Personal Risk, Financial Risk, Social Risk, Emotional Risk, Physical Risk, Professional/Political Risk, Risk in Business, Calculating/Estimating Risk, Mitigating Risk
    3.4. Habit 4: Think win-win
        3.4.1. Six Paradigms of Human Interaction: Win-Win, Win-Lose, Lose-Win, Lose-Lose, Win, Win-Win or No Deal
        3.4.2. Three character traits: integrity, maturity, abundance mentality
        3.4.3. Relationships
        3.4.4. Agreements
        3.4.5. Win-Win performance agreements and processes
    3.5. Habit 5: Seek first to understand, then to be understood
        3.5.1. Listening skills
        3.5.2. Principles of Empathic Communication; Empathic Listening
        3.5.3. Character and Communication
        3.5.4. Diagnose Before You Prescribe
        3.5.5. Four Autobiographical Responses: evaluate, agree or disagree, probe, advise
        3.5.6. Understanding and Perception
        3.5.7. One-on-One
    3.6. Habit 6: Synergize
        3.6.1. Principles of creative cooperation
        3.6.2. Synergistic Communication
        3.6.3. Synergy in the Classroom; Synergy in organizations
        3.6.4. Synergy and Communication
        3.6.5. Considering Additional Alternatives
        3.6.6. Negative Synergy
        3.6.7. Valuing Differences
        3.6.8. Force Field Analysis
        3.6.9. Synergy in the Environment
4. Continuous Improvement

4.1. Improving emotional intelligence
    4.1.1. Actively soliciting feedback
    4.1.2. Practicing behavioural change with the help of others
    4.1.3. Replaying and reflecting on incidents
4.2. Principles and pillars of personal leadership relevant to continuous improvement: Growth
    4.2.1. Transitioning to an empowered mindset
    4.2.2. Learning-adopting-doing: applying learning to continually anchor critical personal leadership skills
4.3. Habit 7: Sharpen the saw
    4.3.1. Principles of Self-Renewal
    4.3.2. Four Dimensions of Self-Renewal: physical, spiritual, mental, social/emotional
    4.3.3. Scripting Others
    4.3.4. Balance and Synergy in Renewal
    4.3.5. The Upward Spiral (Learn-Commit-Do-Learn-Commit-Do)
    4.3.6. Intergenerational Living
    4.3.7. Becoming a Transition Person

5. Conclusion
    5.1. Project Preparation and Guidance/Coaching by Group
    5.2. Final project preparation and presentations

Reading List:

1. Essential Reading
    1.1. Arora, A. (2010). *Meet Your Soul.* Gyan Publisher.
    1.2. Covey, S.R. (2013). The 7 habits of highly effective people. Simon & Schuster; Anniversary Ed.
    1.3. De Bono, E. (2009). Think! Before It's Too Late. Ebury Publishing.
    1.4. Dzongsar Jamyang Khyentse Rinpoche (2012). *Not for Happiness*. Shambala.
    1.5. Goleman, D. (1998). What Makes a Leader? Harvard Business Review, Nov-Dec 1998, p. 93-102.
    1.6. Maldonado, M. (2013). Leading from the Inside Out: Mastering Personal Leadership for Professional Success. The Authentic Leadership Series: Issue 4. American Public University. http://onlinecareertips.com/2013/02/mastering-personal-leadership-for-professional-success/
    1.7. Wadhwa, H. (2012). How Heroes Inspire You To Be Your Best. Inc. Magazine. http://www.inc.com/hitendra-wadhwa/how-heroes-inspire-you-to-be-your-best.html
2. Additional Reading
    2.1. Allen, D. (2002). Getting Things Done. Piatkus.
    2.2. Allen, J. (1911). Eight Pillars of Prosperity. http://james-allen.in1woord.nl/
    2.3. Bach, R. (1970). Jonathan Livingston Seagull. Scribner.
    2.4. Colvin, G. (2010). Talent is Overrated. Portfolio Trade; Updated edition.
    2.5. Gilbert, E. (2010). Eat, Pray, Love. Penguin Books.
    2.6. Hill, N. (1937). Think and Grow Rich. https://archive.org/details/Think_and_Grow_Rich
    2.7. Isaacson, W. (2011). Steve Jobs. Simon & Schuster.
    2.8. Kuh, G. D. (1995). The other curriculum: Out-of-class experiences associated with student learning and personal development. The Journal of Higher Education, 123-155.
    2.9. Kuh, G. (1991). Involving Colleges: Successful Approaches to Fostering Student Learning and Development outside the Classroom. San Francisco: Jossey-Bass.
    2.10. Marcus Aurelius. (167 BCE). The Meditations of Marcus Aurelius. http://classics.mit.edu/Antoninus/meditations.html
    2.11. Personal Goal Review (2007). Effective Time Management Strategies. http://www.effective-time-management-strategies.com/personal-goal-setting.html

2.12. Rarick, C.A. (2007). Enlightened Management: An Analysis of Buddhist Precepts Applied to Managerial Activity. Journal of Global Business Management. October 2007. http://www.jgbm.org/page/3%20%20Charles%20Rarick%20.pdf
2.13. Ratey, J. (2013). Spark. Little, Brown and Company; Reprint edition.
2.14. Schwartz, D. (1987). The Magic of Thinking Big. Fireside; Reprint edition.
2.15. Stanley, T. (2009). Stop Acting Rich. Wiley.
2.16. Sternbergh, B., Weitzel, S.R. (2001). Setting your development goals: Start with your values. Center for Creative Leadership.
2.17. Tolle, E. (2004). The Power of Now. New World Library; 1st edition.
2.18. Wadhwa, H. (2013). Nelson Mandela and the evolution of great leaders. Fortune Magazine Online. http://fortune.com/2013/12/06/nelson-mandela-and-the-evolution-of-great-leaders/
2.19. Yale University Library (n.d). Goal Setting Resource Kit. http://www.library.yale.edu/lhr/pp/Goal%20Setting%20Resource%20Kitv2.5.doc

Date: December 20, 2015

Module Code and Title: **LAN101 Grammar, Vocabulary, and Phonology in Context**

Programme: BA in English Studies (borrowed)

Credit Value: 12

Module Tutor: Dechen Pelden, Dago Palden, Sangay C. Wangchuk, Mohan Rai

Module Coordinator: Dechen Pelden

General objective: This module helps students improve their academic writing by focusing on aspects of grammar and vocabulary that will reflect the transition from pre-university to university. Students will gain experience with the functional grammar they need to succeed in their academic studies in future semesters. Their confidence in understanding and using grammar for written assignments will improve, along with their academic vocabulary, so that they can write accurate English and communicate more effectively in academic contexts. For the vocabulary aspect, the module will cover the most frequently used words in academic texts at an intermediate level. The module uses students' own writing as the basis for conveying grammatical concepts and building vocabulary: incorporating these within the context of writing rather than approaching them in an isolated manner. The writing practise will emphasize the production of coherent paragraphs. For the phonology aspect, the unit will cover details about phonology such as practising phonemic symbols, and all the forty-four sounds in the English Language. Students will also learn how to pronounce words correctly and transcribe phonetic words to English and vice-versa.

Learning outcomes – On completion of this module, learners should be able to:

1. Recall the definitions and appropriate contextual usage of the most frequently used words in intermediate academic texts.
2. Recognise and select more appropriate forms of vocabulary for use in a contextually appropriate manner.
3. Use a high frequency of intermediate academic vocabulary words in written forms of academic communication.
4. Apply grammatical rules to recognize and correct grammatical and mechanical errors in intermediate academic texts.
5. Use appropriate grammatical structures to express more complex academic ideas, such as shades of meaning.
6. Select and design appropriate paragraph types for different uses.
7. Plan, organize, and write a coherent paragraph with a topic sentence, supporting details, and a conclusion, at an intermediate academic level.
8. Explain how speech sounds are made and demonstrate the sound.

9. Enhance their vocabulary by reading the phonetic transcription in the dictionary.
10. Transcribe phonetic words to English.

Learning and Teaching Approach:

Approach	Hours per week	Total credit hours
Lectures & practice	3	45
Tutorials	1	15
Independent study	4	60
Total		120

Assessment Approach:

A. Grammar quizzes: 15%
30 – 40 min quizzes every 3-5 weeks (alternate with vocabulary quizzes or paragraph assignments).

B. Vocabulary quizzes: 15%
30 – 40 min quizzes every 3-5 weeks (alternate with grammar quizzes or paragraph assignments).

C. Paragraph writing portfolio: 15%
5 paragraphs (150-200 words each), submitted separately, and in final form as a collection after rewriting/editing.

D. Midterm Examination: Portion of Final Mark: 15%
Students will take a written exam of 1.5 hr duration covering topics up to the mid-point of the semester. 10% will be a written exam while 5% will be on phonology.

Areas of assignments	Quantity	Weighting
A. Grammar quizzes	3	15%
B. Vocabulary quizzes	3	15%
C. Paragraph writing portfolio	5 paragraphs	15%
D. Midterm Examination	1	15%
Total Continuous Assessment (CA)		**60%**
Semester-End Examination (SE)		**40%**

Pre-requisites:

Subject matter:

Unit I: Writing, Vocabulary, and Grammar Practice 1

1.1. Introduction to paragraph planning, with examples
1.2. Unifying ideas: themes, topics; paragraph length guidelines
1.3. Vocabulary – in class and self-study practice of vocabulary definitions and contextual usage
  1.3.1. Word meanings, word families, and collocations for target words from the academic word list (top ~50)
  1.3.2. Strategy building: Using a dictionary
1.4. Grammar in context – in-class and self-study practice on identifying and correcting grammatical errors and producing grammatically correct sentences
  1.4.1.
  1.4.2. Punctuation
  1.4.3. Tenses Review
  1.4.4. Conditionals

Unit II: Aspects of Phonology

2.1. Learning phonemic symbols
  2.1.1. Audio and video learning the sounds
2.2. Practicing sounds
  2.2.1. Learning how to read, write and practice consonants sounds
  2.2.2. Learning how to read, write and practice vowel sounds

2.3. Transcription exercises
    2.3.1. Transcribing from English to phonetics and phonetics to English

Unit III: Writing, Vocabulary, and Grammar Practice 2

3.1. Features and uses of an illustration paragraph
3.2. Flow of ideas in a paragraph: showing connections
3.3. Vocabulary – in class and self-study practice of vocabulary definitions and contextual usage
    3.3.1. Word meanings, word families, and collocations for target words from the academic word list (next ~50)
    3.3.2. Strategy building: Word-knowledge expansion
3.4. Grammar in context – in-class and self-study practice on identifying and correcting grammatical errors and producing grammatically correct sentences
    3.4.1. Connectors
    3.4.2. Modal Verbs
    3.4.3. Verb patters

Unit IV: Writing, Vocabulary, and Grammar Practice 3

4.1. Features and uses of an analysis or classification paragraph
4.2. Flow of ideas in a paragraph: deliberate repetition
4.3. Vocabulary – in class and self-study practice of vocabulary definitions and contextual usage
    4.3.1. Word meanings, word families, and collocations for target words from the academic word list (next ~50)
    4.3.2. Strategy building: Identifying text structures
4.4. Grammar in context – in-class and self-study practice on identifying and correcting grammatical errors and producing grammatically correct sentences
    4.4.1. Phrasal and prepositional verbs
    4.4.2. Noun phrases
    4.4.3. Being formal and informal

Unit V: Writing, Vocabulary, and Grammar Practice 4

5.1. Features and uses of a comparison or contrast paragraph
5.2. Flow of ideas in a paragraph: strategic use of pronouns
5.3. Vocabulary – in class and self-study practice of vocabulary definitions and contextual usage
    5.3.1. Word meanings, word families, and collocations for target words from the academic word list (next ~50)
    5.3.2. Strategy building: Synthesis of ideas across texts using common vocabulary
5.4. Grammar in context – in-class and self-study practice on identifying and correcting grammatical errors and producing grammatically correct sentences
    5.4.1. Arguing
    5.4.2. Passives
    5.4.3. Paraphrasing

Unit VI: Writing, Vocabulary, and Grammar Practice 5

6.1. Features and uses of a qualification paragraph
6.2. Flow of ideas in a paragraph: specialized linking words to reinforce ideas
6.3. Vocabulary – in class and self-study practice of vocabulary definitions and contextual usage
    6.3.1. Word meanings, word families, and collocations for target words from the academic word list (next ~50)
    6.3.2. Strategy building: Making meaning: context clues
6.4. Grammar in context – in-class and self-study practice on identifying and correcting grammatical errors and producing grammatically correct sentences
    6.4.1. Stating facts and opinions
    6.4.2. Comparing and Contrasting
    6.4.3. Being emphatic

Unit VII: Writing, Vocabulary, and Grammar Practice 6

7.1. Features and uses of a process paragraph
7.2. Flow of ideas in a paragraph: specialized linking words to signal a change in ideas
7.3. Vocabulary – in class and self-study practice of vocabulary definitions and contextual usage
    7.3.1. Word meanings, word families, and collocations for target words from the academic word list (next ~50)
    7.3.2. Strategy building: Word maps
7.4. Grammar in context – in-class and self-study practice on identifying and correcting grammatical errors and producing grammatically correct sentences
    7.4.1. Arguing and Persuading
    7.4.2. Talking about Cause and Effect
    7.4.3. Relative Clause

Unit VIII: Writing, Vocabulary, and Grammar Practice 7

8.1. Putting paragraphs together
    8.1.1. Paragraph placement and combinations
    8.1.2. Paragraph transitions
8.2. Flow of ideas in a paragraph: specialized linking words to signal a conclusion
8.3. Vocabulary – in class and self-study practice of vocabulary definitions and contextual usage
    8.3.1. Word meanings, word families, and collocations for target words from the academic word list (next ~50)
    8.3.2. Strategy building: Root analysis
8.4. Grammar in context – in-class and self-study practice on identifying and correcting grammatical errors and producing grammatically correct sentences
    8.4.1. Using defining language
    8.4.2. Cohesion

Reading List:

1. Essential Reading
    1.1. Hacker, D. (2010). A Writer's Reference, 7th Ed. Boston: Bedford/St. Martin's.
    1.2. Paterson, K. and Wedge, R. (2013). Oxford Grammar for EAP. Oxford University Press.
    1.3. Jones, D. (2014). Cambridge Pronouncing Dictionary. Cambridge University Press.
    1.4. Hornby, A.S. (2013). Oxford Advanced Learner's Dictionary. Oxford University Press.
2. Additional Reading
    2.1. Bolton, D. (2010). English Grammar in steps. New Delhi: Orient BlackSwan.
    2.2. Fuchs, M. and Bonner, M. (2006). Focus on grammar: An integrated skills approach, 4th Ed. New York: Pearson Education ESL.
    2.3. Hacker, D. (2008). Rules for writers. Boston: Bedford/St. Martin's.
    2.4. Harris. (2003). Prentice Hall Reference Guide to Grammar and Usage. Upper Saddle River: Prentice Hall.
    2.5. Hewings, M. (2008). Advanced English Grammar: A self-study reference and practice book for advanced South Asian Students. New Delhi: Cambridge University Press.
    2.6. Jones, L. (2007). Cambridge Advanced English: Student's Book. New Delhi: Cambridge University Press.
    2.7. Kennedy, X.J. and Kennedy, D.M. (1990). The Bedford Guide for College Writers, 2nd Ed. Boston: Bedford Books of St. Martin's Press.
    2.8. Leech, G. and Svartvik, J. (2002). A Communicative Grammar of English. New Delhi: Pearson Education.
    2.9. McCarthy, M. and O'Dell, F. (2002). English Vocabulary in Use: Advanced. New York: Cambridge University Press.
    2.10. Quirk, R. (2008). A University Grammar of English. New Delhi: Pearson Education.

2.11. Raimes, A. (2008). Keys for writers. Boston: Houghton Mifflin.
2.12. Schmitt, D., Schmitt, N. and Mann, D. (2011). Focus on Vocabulary 1: Bridging Vocabulary (2nd Ed.). Pearson Education ESL.
2.13. Schmitt, D. and Schmitt, N. (2011). Focus on Vocabulary 2: Mastering the Academic Word List (2nd Ed.). Pearson Education ESL.
2.14. Yule, G. (2014). The Study of Language (5th Edition). Cambridge University Press.

Date: August 17, 2018

Module Code and Title: **ACS101 Academic Skills**

Programme(s): University-wide module

Credit Value: 12

Module Tutor(s): Dechen Palden, Rajitha Sanaka

Module Coordinator: Dechen Pelden

General objective:

This module aims to develop the knowledge and understanding of a range of academic skills required for study at university level. The module will focus on the development of academic writing, oral presentation, as well as listening skills to enable students to communicate effectively in both spoken and written forms. The module will enhance their learning throughout their studies at university and beyond, through close reading, discussions and critiquing of academic texts. Further, it will also enhance students' capacity to critically reflect on their own learning.

Learning outcomes:

On successful completion of this module, students will be able to:

- use effective note taking skills to extract relevant information from a range of academic texts.
- lead and participate productively in group situations.
- apply features of academic writing in academic discourses.
- apply learned strategies to avoid the consequences of academic dishonesty.
- employ a range of strategies and techniques to read academic texts.
- demonstrate information retrieval and analysis skills by identifying, assessing and using appropriate sources i.e. author, publisher or website.
- identify the content, viewpoint and relevance of articles and reports on a wide range of topics.
- write academic papers using a process approach: planning, drafting, eliciting feedback and revising, following consistent academic standards.
- construct a coherent and substantiated argument that integrates appropriate source material, and uses appropriate research and APA referencing conventions in clear and correct language in the form of an essay.
- produce academic essays using process approach: planning, drafting, eliciting feedback and revising using appropriate terminology and a consistent academic style.
- plan, organise and deliver a clear, well-structured academic oral presentation.

Teaching and Learning Approach:

Tutors will employ an interactive, student-centred approach, integrating language and critical thinking skills using the following strategies: demonstrations/modelling, practical exercises and activities, group work (discussions, problem-solving activities, collaborative and individual tasks, peer feedback and debates), academic essay writing (process learning with diagnosis, feedback and remediation), oral presentation, portfolio, independent study and VLE discussions over the 120 credit hours.

Approach	Hours per week	Total credit hours
Demonstrations/Modelling	1	15
Practical exercises and group works	2	30
Academic essay writing	1	15
Oral presentation	0.5	7.5
Portfolio	1.5	22.5
Independent study and VLE discussions	2	30
Total		**120**

Assessment Approach:

Since the module is entirely assessed through continuous assessment, a student must complete all five components of the assessment outlined below and get an aggregate mark of 50% in order to pass. Assessment will be carried out on a continuous basis through the following tasks:

A. Academic Essay: Portion of the Final Mark (30%)

Students have to write one 800 to 1000-word academic essay following the rules of academic standards, essay writing, APA referencing and mechanics of language in order to practice and develop academic writing skills at the university level. The academic essay will be written in three drafts; the first draft to be peer reviewed, the second and final essay to be assessed based on the following criteria:

Second Draft (10%)	Final Draft (20%)
Content (4%)	Content (10%) (*Introduction-3%, Body-5%, Conclusion-2%)*
Language (2%)	Language (4%)
References (2%)	References (4%)
Format (2%)	Format (2%)

B. Presentation: Portion of the Final Mark (15%)

Each student has to make one 5-7 minute presentation. This will help them acquire the skills necessary for carrying out effective oral presentations during the course of their university study. The students can choose one presentation topic related to their Academic Skills module, programme or an evidence-based subject that interests them for this task. The presentations will be assessed based on the following criteria:

Greetings (3%)
- *Introduction*
- *Topic*
- *Overview*

Content (4%)
- *Clarity*
- *Discussion*
- *Evidence*
- *Coherence*

Delivery (5%)
- *Pronunciation*
- *Grammar*
- *Tone and pitch*
- *Body language*

Visual Aids (2%)
- *Effectiveness*
- *Relevance*

Time Management (1%)
- *Coverage*

- *Conclusion*

C. Portfolio: Portion of the Final Mark (25%)

Each student has to maintain a portfolio containing series of exercises from both within and outside the class. This is to ensure the development of independent study, skills and ability to work with other students. The portfolio will be assessed based on the following:

- Organisation (5%)
- Class Work (8%)
- Class Notes (5%)
- Homework (7%).

D. Class Test: Portion of the Final Mark (20%)

Students have to write one class test towards the end of week seven. The test will mainly focus on referencing skills.

E. VLE Discussion: Portion of the Final Mark (10%)

Students will contribute to VLE discussions on selected topics assigned by tutors.

- Frequency (5%)
- Relevance (5%)

An overview of the assessment approaches and weighting:

Areas of assessment	Quantity	Weighting
A. Academic essay	1	30%
B. Oral presentation	1	15%
C. Portfolio	1	25%
D. Class test	1	20%
E. VLE discussion	2-5	10%

Pre-requisite: None

Subject Matter:

Unit I: Academic Standards

1.1. Definition
1.2. Purpose of Academic Activities
1.3. Ethics and Integrity

Unit II: Note-taking

2.1. Basics of note-taking
    2.1.1. Storing information during lecture sessions
2.2. Types of notes and strategies
    2.2.1. Pattern Notes or Mind Maps
    2.2.2. The Cornell Method
    2.2.3. The Outlining Method
    2.2.4. Symbol and Abbreviation Method
2.3. Listening and note-taking
    2.3.1. Practicing Listening with the partners
    2.3.2. Listening to BBC service podcasts
    2.3.3. Listening to IELTS test samples

Unit III: Academic Writing

3.1. Academic Writing
    3.1.1. Definition

3.1.2. Importance of academic writing
3.1.3. Identifying various academic texts
3.1.4. Applying academic features in writing for academic purposes

3.2. Features of academic writing
3.2.1. Formality
3.2.2. Structure
3.2.3. Logic
3.2.4. Evidence and sources
3.2.5. Objectivity
3.2.6. Precision

3.3. Types of academic writing
3.3.1. Essays
3.3.2. Reports
3.3.3. Exam responses
3.3.4. Academic assignments
3.3.5. Proposals (Research and project)

3.4. Academic argument
3.4.1. Definition
3.4.2. Distinction between academic argument and everyday argument
3.4.3. Facts, opinions and beliefs

Unit IV: Referencing Techniques and APA format

4.1. Types of referencing styles
4.1.1. Documentary note styles
4.1.2. Parenthetical styles or author-date styles
4.1.3. Numbered styles
4.1.4. Why and when to cite

4.2. Introduction to using source materials
4.2.1. Defining sources
4.2.2. Critical evaluation of resources

4.3. Using source materials for in-text citation
4.3.1. Direct and Indirect/Reported voice

4.4. Making end-text/reference lists
4.4.1. Writing references for books, newspapers, websites and scholarly journals

4.5. Referencing and academic integrity
4.5.1. Understanding plagiarism and its consequences
4.5.2. Maintenance of academic standards
4.5.3. Honesty and rigor in academic writing and publishing
4.5.4. Following academic ethics

Unit V: Academic Essay Writing

5.1. Writing Process
5.1.1. Pre-writing, Drafting, Revising, Editing and Publishing

5.2. Understanding Written Assignments
5.2.1. Instruction words
5.2.2. Content words
5.2.3. BUG method

5.3. Academic Essay
5.3.1. Purpose and features of academic essays

5.4. Essay Format/Structure
5.4.1. Introduction- Opening statement, background information and thesis statement
5.4.2. Body paragraphs
5.4.3. Conclusion

Unit VI: Academic Reading

6.1. Text features and organization

6.1.1. Textual Features
6.1.2. Graphic Aids
6.1.3. Informational Aids
6.1.4. Organizational Aids

6.2. Reading Techniques
6.2.1. Skimming
6.2.2. Scanning
6.2.3. SQ3R

6.3. Introduction to Using Source Materials
6.3.1. Locating, evaluating and selecting information
6.3.2. Internet Source- Web endings

6.4. Summarizing and Paraphrasing academic texts

6.5. Critical reading (author viewpoints/biases, reading for detail)

Unit VII: Oral Presentations

7.1. Basics of oral presentation
7.1.1. Definition and Examples
7.1.2. Tips to Overcome Anxiety in Oral Presentation (Controlling Nervousness, Controlling Physical Nervousness, Capitalizing on the Law of Attraction)
7.1.3. Organising the Content (Introduction, Body, Conclusion)

7.2. Strategies for delivering an effective presentation
7.2.1. Signposting (Introducing topic of presentation, outlining the structure of presentation, indicating the start of new section, concluding)
7.2.2. Using Visual Aids
7.2.3. Sense of Humour
7.2.4. Body Language
7.2.5. Tone and Pitch

Reading List

Essential Reading

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

Department of Academic Affairs. (2018). *Students' materials for academic skills*. Thimphu: Royal University of Bhutan.

Department of Academic Affairs. (2018). *Tutors' materials for academic skills*. Thimphu: Royal University of Bhutan.

Additional Reading

Bailey, S. (2011). *Academic writing: A handbook for international students* (3rd ed.). Abingdon, Oxford: Routledge.

Butler, L. (2007). *Fundamentals of academic writing*. New York, NY: Pearson Longman.

Gillet, A. (2013, January 15). *UEFAP (Using English for academic purposes): A guide for students in higher education.* Retrieved from http://www.uefap.com

Gillet, A., Hammond, A., & Martala, M. (2009). *Inside track successful academic writing.* England: Pearson Education.

Hogue, A. (2007). *First steps in academic writing*. New York: Pearson Education ESL.

Oshima, A., & Hogue, A. (2005). *Writing academic English* (4th ed.). White Plains, NY: Pearson Education.

Oshima, A., & Hogue, A. (2006). *Introduction to academic writing* (3rd ed.). New York: Pearson Longman.

Ramsey-Fowler, H., & Aaron, J. E. (2010). *The little brown handbook* (11th ed.). New York, NY: Pearson Longman.

Date: 29 June 2018

Module Code and Title: **IPS101 IT and Basic Problem Solving**

Programme(s): BSc in Environmental Management (borrowed)

Credit Value: 12

Module Tutor(s): Phub Namgay (Coordinator)
Vijay Gurung

General objective(s) of the module:

This module aims to develop a working facility with Office productivity tools (Microsoft Word, Excel, PowerPoint). The module will also develop skill in basic structuring of problems, applying common sense logic and reasoning to problem solving, using appropriate tools to solve problems, and presenting findings in a clear and concise manner.

Learning outcomes – Upon successful completion of the module, students will be able to:

- Demonstrate basic functional use of Word, Excel and PowerPoint, to the level appropriate for the remainder of the time in college plus an entry-level job.
- Find data relevant to a problem.
- Assess the quality and reliability of data.
- Structure common mathematical problems.
- Solve common mathematical problems on Excel and other software.
- Approximate quantitative answers.
- Judge reasonableness for computed answers.
- Structure more complex problems, including asking the relevant questions, gathering appropriate data, analysing that data, and presenting findings.

Skills to be developed:

- Students should develop basic IT/office productivity skills.
- Students should gain skill in structuring and solving problems, and assessing the reasonableness and usefulness of conclusions.

Learning and teaching approaches used:

The module will be conducted over 15 teaching weeks as follows:

- 4 hrs/wk lecture & practice in a computer lab in 2 x 2hr block periods.
- 4 hrs/wk outside of class, on average, for independent study and further practice.

Assessment:

Continuous Assessment (CA): 100%

CA Assessment	Weight	Assessment Detail
Frequent short practice exercises (6 x 5%)	30%	In-class (30 min) and take-home practice exercise incorporating small elements of Units I-III (e.g. data searches, re-write letter, short Excel problems, milestones in Unit III).
Achieving interrelated tasks throughout, Unit I	20%	Written report using Word (500 words) – 10%; Preparation of a presentation using PPT (10 slides) – 10%.
Problem solving, approximation exercises, Unit II	30%	Three written/computed in-class exercises of 10% each on problem solving.

Final Project	20%	Written report using Word (500 words) and accompanying presentation of 10 min duration using PPT (~10 slides).

Pre-requisite knowledge:

Subject matter:

I. Basics of the computer for communication and analysis
   a. Write a letter, e-mail it, file it, respond
      i. Basics of Word
      ii. Basics of Internet
      iii. File folders; search
   b. Find and assess information: Internet search (e.g. Google); Sifting through / assessing quality of information; quality of the source; Categories of information/issues with each
      i. Facts: Reliability of the source; crosschecking different sources
      ii. Data: Varies with the question being asked; different perspectives
      iii. Opinion: No single answer; varies with source and perspective; different uses in different contexts
      iv. Revise the letter, using better quality information
   c. Present the findings
      i. Written report using Word (introduction, key issues, analysis, conclusions, actions)
      ii. Presentation using Powerpoint: Powerpoint basics (clear concise slides; major points only, not reading off the slides; body language and eye contact / facing the audience

II. Solving problems using basic math on the computer
   a. Introduction to Excel: types of basic problems that can be solved
      i. Calculation of a specific answer to a narrow problem (e.g. average and weighted averages, Min/Max, Count, Present value, IRR)
      ii. Statistical overview of a dataset
   b. Students do a variety of problems, and solve on Excel: Identify different types of problems; set up problem/data on Excel; Assess the correctness of the answer
      i. Students select different types of problems they can solve with basic math of general relevance
         1. Budgeting and basic finance (money and consumer math): Account balances, savings and loan repayment calculations based on simple interest; estimating returns on investment, doubling time
         2. Percentages:% increases, decreases, commissions, discounts
         3. Weighted averages, e.g. marks calculation
         4. Quantitative trends over time
         5. Basic probability
      ii. Assess the correctness of the answer (i.e. do estimations of the answer and compare with the calculated answer as a way of finding mistakes and approximating answers)
         1. Basic “reasonableness”: identify answers which are clearly out of the possible range of answers
         2. Do rough calculations to get approximate answers
         3. Relate to the type of possible answers (e.g. for an average, the answer cannot be outside the range of numbers in the data - look at the most frequent number in the data; e.g. for a compound interest problem, do simple multiplication for the approximation).

III. More complex problem-solving
   a. Introduction to structuring a complex problem, asking the right questions, analysing the data, drawing conclusions. Examples in various subject areas:
      i. Business: Market/Customer data regarding demand for competing products
      ii. Economics: Price vs. Demand

iii. Environment: Correlation of an environmental hazard with a health issue
iv. Social sciences: Types of people for/against a particular issue

IV. Final Project
   a. Student identifies a more complex problem he/she wants to analyse, and then structures the basic data collection, data analysis, and conclusions
      i. Identify the issues to be addressed
      ii. Structure questions to highlight these issues and draw conclusions
      iii. Process and limitations for obtaining survey answers (if relevant)
      iv. Accuracy and compiling data
      v. Structuring the data analysis in Excel
      vi. Interpreting quantitative results and drawing conclusions
      vii. Assessing reliability, limitations of answers
   b. Student prepares a written report in Word and a presentation in Powerpoint (presentation given to student audience; other students critique the presentation)

Essential Readings:

1. Frye, C. (2014). Microsoft Excel 2013 Step by Step. Microsoft Press.
2. Simple case studies designed to teach students how to identify a problem and structure a solution.
3. Training resources on Microsoft Office, available at http://office.microsoft.com/en-us/training/

Additional Readings:

1. Swinford, E., Melton, B., and Dodge, M. (2013). Microsoft Office Professional 2013 Step by Step. Microsoft Press.
2. Weverka, P. (2013). Microsoft Office 2013: All-in-One for Dummies. Wiley India.

Date last updated: May 30, 2015

Module Code and Title: **GSE101 Analytical Skills**

Programme: University-wide module

Credit: 12

Module Tutor(s):

General objective: This module aims at developing critical and analytical thinking skills of students to enhance their creativity and ability to think laterally that will aid problem solving and decision making abilities. With these essential analytical thinking and problem solving skills students gain an edge in a competitive world.

Learning outcomes - On completion of the module, students will be able to:

- articulate thinking paradigms;
- explain creativity and barriers to creative thinking;
- apply creative thinking skills to spot unnoticed opportunities;
- describe problem solving process;
- apply appropriate problem solving tools to a given issue;
- evaluate issues to make informed decisions;
- generate creative solutions by using appropriate methods.

Teaching and learning approaches

Approach	Hours per week	Total Credit Hours
Lectures	1	15
Group and Panel Discussions, Presentations, Case Study	1	15
Role Plays/Demonstrations, Mock sessions, Audio visuals	2	30
Independent Study, Reflection, Written Assignments, Project Work , Individual Reading	4	60
Total		**120**

Assessment approach

A. Written Assignmen: Portion of final Marks - 20%

Students will be required to complete one written assignment on the contemporary issue of a subject. The required data and contextual information will be provided to students. Students will be required to read, analyse and interpret the data and contextual information, and communicate the result to the intended audience. Wherever there is a need, students should substantiate the existing data with their own data collection. The length of the assignment should be anywhere between 1000 and 1500 words.

Criteria:

4% - Originality and creativity
2% - Clarity of the points and opinions
4% - Reliability of data and accuracy of data interpretation
8% - Analysis of the issue
2% - Overall effectiveness of writing style

B. Class Participation: Portion of the final Marks - 10%

Students will participate in class discussions, contributing their ideas and opinions about the methods and tools being taught in the module.

Criteria:

2% - frequency of participation in class
3% - quality of comments –involving critical thinking and analysis of information and reasoning
5% - contribution in a group discussion in class –understanding of group dynamics and processes

C. Case Analysis and Presentation: Portion of Final Marks - 30%

Students will solve one case study in a group which will be assessed in two components. The case can be related to any field of knowledge such as engineering, climate change, biotechnology, sustainable development, procurement, production, marketing, strategic management, human resource and current economic and social development.

1. Written

Criteria:

5% identifying the problem
10% choosing the right approach for the analysis and solving the problem
5% drawing the correct conclusion with a recommendation

2. Presentation

Criteria:

2% Creativity in delivery of the presentations;
2% Visual appeal
2% Confidence
4% Content analysis

D. Panel Discussion: Portion of Final Mark - 20%

A group of students will be required to discuss a topical issue such as climate change, green procurement, disruptive innovation, and big data moderated by a peer.
Criteria:
5% - Preparedness on the topic
5% - Relevance of the argument
5% - Respect for other panelists' views
5% - Coherent and logical flow of ideas

E. Debate: Portion of the Final Mark - 20%

Students in groups of four or five will debate on a given topic against another group.
Criteria:
5% - Language Proficiency
5% - Intelligence, ability and competence
5% - Logical thinking and reasoning
5% - Ability to use appropriate information

Overview of the assessment approaches and weighting:

Areas of Assignment	Quantity	Weighting
A. Written Assignment	1	20%
B. Class Participation	NA (non-definite/should participate in the class discussion at least 5 times)	10%
C. Case Analysis & Presentation	1 + 1	30%
D. Panel Discussion	1	20%
E. Debate	1	20%
TOTAL		**100%**

Pre-requisite: None

Subject matter

UNIT I: Thinking process & Reflection

1.1. Introduction to the Thinking Process & Reflection
1.2. Concept of mind mapping
1.3. Metacognition and thinking about thinking
1.4. Thinking Paradigms: Lateral and Vertical thinking
  1.4.1. Whole brain (system 1 and system 2)
  1.4.2. Analytical
  1.4.3. Critical
  1.4.4. Creative
  1.4.5. Logical
  1.4.6. Scientific
  1.4.7. Statistical
  1.4.8. Systems
  1.4.9. Visual
  1.4.10. Ethical

UNIT II: Overview of analytical thinking skills

2.1. Concept of analytical skills
2.2. Competencies of analytical thinking
2.3. Benefits of analytical thinking
2.4. Analytical thinking process
2.5. Tools and techniques for analytical skills
2.6. Application of analytical thinking
2.7. Validity and strength in arguments

UNIT III: Creative Thinking

3.1. Definition of creativity

3.2. Creative thinking – Self-Assessment
3.3. Characteristics of a creative person
3.4. Barriers to creativity and overcoming the barriers
3.5. Ways to enhance creative thinking (e.g. brain storming)
3.6. Methods of creativity

UNIT IV: Problem solving process

4.1. Understanding problem analysis
4.2. Conventional problem solving process
    4.2.1. Present the problems
    4.2.2. Ask solutions
    4.2.3. Shoot down ideas
    4.2.4. Make consensus
4.3. Creative problem solving process
    4.3.1. Problem definition
    4.3.2. Problem analysis
    4.3.3. Generating possible solutions
        4.3.3.1. Brain storming process and rules
        4.3.3.2. Fishbone Analysis
        4.3.3.3. Mind mapping
    4.3.4. Analysing the solutions
    4.3.5. Selecting the best solution
    4.3.6. Implementing the best solution
    4.3.7. Planning the next course of action
4.4. Questioning techniques

UNIT V: Decision making process

5.1. Introduction to Decision making process
5.2. Six Thinking Hats
5.3. SWOT Analysis
5.4. Decision Tree analysis/what-if analysis
5.5. Pareto chart
5.6. Logical Framework Analysis

Reading List

Essential Reading

Bono, E. d. (2000). *Six Thinking Hats* (2nd ed.). New Delhi, India: Penguin India.

Michalko, M. (2006). *Thinkertoys: A handbook of creative-thinking techniques* (2nd ed.). Ten Speed Press.

Puccio, G.J., Mance, M. & Switalski, L.B. (2017). *Creativity Rising Creative Thinking and Creative Problem Solving in the 21st Century.* ICSC Press, International Center for Creativity, US

Treffinger, D. J. (2006). *Creative Problem Solving: An introduction* (4th ed.). Prufrock.

Additional Reading

Bono, E. d. (2008). *Creativity workout: 62 exercises to unlock your most creative ideas.* Ulysses Press.

Bono, E. d. (2009). *Lateral Thinking.* e-Penguin.

Bono, E. d. (2005). *Thinking course (Revised Edition)*.

Chopra, R. (n.d.). *Logical Critical Analytical Reasoning.* Galgoba Publications Pvt Ltd.

Eiffert, S. D. (1999). *Cross-train your brain: a mental fitness program for maximizing creativity and achieving success.* Amacom.

Kahneman, D. (2015). *Thinking fast and slow.* New York: Farrar, Straus and Giroux.

Scott, J. W. (2016). *Critical Thinking: Proven strategies for improving your decision making skills, retaining information longer and analyzing situations with simple logic ---- Logical thinking and critical thinking skills.* New Familiar Publishing.

Date: January 2018

Module Code and Title: **DZG101 Dzongkha Communication**

๑	**སློབ་ཚན་གྱི་མིང་**	:	རྫོང་ཁ་བརྡ་དོན་སྦྱོང་ལེན།
๒	**སློབ་ཚན་ཨང་**	:	རྫོང་ཁ་๑๐๑
๓	**སློབ་སྦྱོང་གི་མིང་**	:	གཙུག་ལག་གཞི་རིམ་འོག་མའི་སློབ་སྦྱོང་དང་ གཙུག་ལག་གཞི་རིམ་སློབ་སྦྱོང་།
๔	**སློབ་འཐུས་**	:	๑๒
๕	**སློབ་སྟེགས་**	:	རྫོང་ཁའི་ལེགས་བཤད་པ།
๖	**སྤྱིར་བཏང་གི་ཡོད་དོན་**	:	

རྫོང་ཁ་བརྡ་དོན་སྦྱོང་ལེན་གྱི་སྦྱོང་ཚན་འདི་མཐར་འཁྱོལ་ཞིན་མ་ལས་སློབ་སྦྱོང་པ་ཚུ་གིས་རང་གི་མི་ཚེ་ནང་ལྟ་གཡོག་དང་འབྲེལ་བའི་གནད་དོན་ག་ཅིའི་ཐད་ལས་འབད་རྩད་རྫོང་ཁའི་ནང་དགོ་མོག་དང་ཡིག་མོག་གཉིས་ཆ་རའི་ནང་བརྡ་དོན་སྦྱོང་ལེན་ཚུལ་དང་མཐུན་ཏོག་ཏོ་འབད་འབད་ཚུགས་ནི།

๗ སློབ་སྦྱོང་གྲུབ་འབྲས།

སྦྱོང་ཚན་འདི་ལྷག་ཚར་བའི་ཤུལ་ལུ་སློབ་སྦྱོང་པ་ཚུ་གིས་ :

๗.๑ རྫོང་ཁའི་སྐད་ཡིག་གི་འབྱུང་རབས་དང་རྫོང་ཁ་ལྷག་དོ་ཁའི་ཁྱད་པར་ཚུ་སྨན་ཚུགས།

๗.๒ དུས་རྒྱུན་ལག་ལེན་འཐབ་དོག་པའི་མིང་བྱ་ཚིག་ཁྲད་ཚིག་ཚིག་གྲོགས་ཚུ་མ་འཛིལ་བར་ལག་ལེན་འཐབ་ཚུགས།

๗.๓ དུས་རྒྱུན་ལག་ལེན་འཐབ་དོག་པའི་མིང་བྱ་ཚིག་ཁྲད་ཚིག་ཚིག་གྲོགས་ཚུ་གི་ཡིག་སྟེབ་ དཔེ་འབད་འཐེ་ཚུགས།

๗.๔ ཡུལ་དུས་གནས་སྐབས་དང་བསྟུན་ཏེ་ཞེ་ས་དང་ཨལ་སྐད་ཚུལ་མཐུན་འབད་ལག་ལེན་འཐབ་ཚུགས།

๗.๕ རྫོང་ཁའི་ཐོག་ལུ་བྱེས་ཏེ་ཡོད་མི་ཚུ་ཚུལ་དང་ལྡན་ཏོག་ཏོ་འབད་ལྷག་ཚུགས།

๗.๖ རྒྱང་མོ་དང་བློ་ཟབ་དམྱེ་གཏམ་གྱི་རིགས་ཚུ་ལག་ལེན་འཐབ་ཚུགས།

๗.๗ འཐེལ་སྦྲ་དང་ཉེད་སྦྲ་ལྷག་བཅས་རྒྱུན་སྐྱད་ཀྱི་ཆོག་ཤད་ཚུ་མ་འཛིལ་བར་ལག་ལེན་འཐབ་ཚུགས།

๗.๘ འཐེ་རྩོམ་གྱི་ཁྲད་ཆོས་ཚུ་ཚངམ་འབད་ལག་ལེན་འཐབ་སྟེ་འཐེ་ཚུགས།

๗.๙ གཞུང་སྐེར་ཡིག་འགྲུལ་གྱི་རིགས་འཐེ་ཚུགས།

๗.๑๐ འཐེ་ཨོག་གི་རིགས་གཅི་ར་ཞིན་རྫོང་ཁའི་ནང་དཀའ་ངལ་མེད་པར་བཀང་ཚུགས།

๗.๑๑ ལུང་འཛེན་དང་རྒྱབ་རྟེན་གྱི་ཐོ་འོས་འབབ་ལྷན་ཏོག་ཏོ་འབད་བཀོད་ཚུགས།

৮ **རིག་རྒྱལ་ཡར་རྒྱས** : རྩོད་ཁའི་སྐད་ཡིག་གི་རིག་རྒྱལ་བཞི།

৯ **གནས་ཚད་** :

১০ **སློབ་སྦྱོན་འབད་ཐངས** :

སྤྱོང་ཚན་འདི་གི་དོན་ལུ་ཡོངས་བསྡོམས་ཆུ་ཚོད་১২০ཐོག་དགོས་ཤིན་རྩེད་སློབ་སྦྱོན་གྱི་དོན་ལུ་ཉུང་མཐའ་ཆུ་ཚོད་৫০དགོས་ཤིན། ཡང་བདུན་ཐུག་རེ་ལུ་ཆུ་ཚོད་৯རེ་འབད་བདུན་ཐུག་১৫གི་རིང་ལུ་སློབ་སྦྱོན་འབད་དགོས་ཤིན། གི་སྤུག་མ་ཆུ་ཚོད་৫০སློབ་ཁང་ནང་འབད་མེན་པར་རང་རྩྭ་གི་ཐོག་ལས་སྤྱན་ནི་དང་ལས་འགུལ་འབྲེ་ནི་ཚུ་གི་དོན་ལུ་ལག་ལེན་འཐབ་དགོས་ཤིན། དུས་རྒྱུན་སློབ་ཁང་ནང་ལུ་སློབ་སྦྱོན་འབད་བའི་སྐབས་ལུ་འོག་གི་ཚུ་ཚོད་དཔྱ་བགོ་རྩྭ་མི་དང་འཁྲིལ་ཏེ་ལག་ལེན་འཐབ་དགོ

སློབ་སྦྱོན་	ཆུ་ཚོད་২০
སྤྱོང་ལྷ	ཆུ་ཚོད་৯০
སྤྱན་ཤུ	ཆུ་ཚོད་১০

১১ **དབྱེ་ཞིབ** : སྤྱོང་ཚན་འདི་གི་དོན་ལུ་སྤྱང་རྒྱུགས་དབྱེ་ཞིབ་དང་དུས་རྒྱུན་དབྱེ་ཞིབ་གཉིས་ཆ་ར་ལག་ལེན་འཐབ་སྟེ་དབྱེ་ཞིབ་འབད་དགོས་ཤིན།

ཀ	དུས་རྒྱུན་དབྱེ་ཞིབ།	སྐུགས་	৫০%
		ལས་འགུལ་	২০%
		སློབ་ཁང་སྤྱན་ཤུ	১৫%
		སློབ་ཁང་གི་སྤྱོང་ལྷ	১৫%
ཁ	སྤྱང་རྒྱུགས་དབྱེ་ཞིབ།		৫০%
		ཚོས་རྒྱུགས།	৫০%
	ཡོངས་བསྡོམས	**སྐུགས་১০০**	

১২ **སྡེབ་ཚན་ཤེས་ཡོན་** :

১৩ **ཁངདོན་**

དོན་ཚན་ཀ་པ། སྐད་ཡིག་གི་ངོ་སྤྲོད། (ཆུ་ཚོད་৯)

১ རྩོད་ཁའི་སྐད་ཡིག་གི་འབྱུང་རབས།

২ རྩོད་ཁ་ལྷབ་དགོ་པའི་དགོས་པ།

དོན་ཚན་ཁ་པ། མིང་ཚིག་རྩོད་པའི་རྣམ་གཞག། (ཆུ་ཚོད་২৫)

১ མིང་

২ བྱ་ཚིག

৩ ཁྱད་ཚིག

ཀ སྒོང་ཚན་འདི་སྒྲུབ་བ་ལེགས་ཤོམ་འབད་ཐོབ་ནི་དོན་ལུ་འོག་ལུ་བཀོད་དེ་ཡོད་མི་འདི་དེ་ཚུ་རེས་པར་དུ་ལྟག་དགོ

ཀུན་བཟང་རྡོ་རྗེ། (༢༠༡༡) བློ་ཟེ་ལྡའི་པེ་ཁང་། ཐིམ་ཕུ། རྩོད་ཁ་གོང་ལྡན་ཚོགས།

ཀུན་བཟང་རྡོ་རྗེ། (༢༠༡༡) རྩང་མོའི་ཀི་དེབ་བློ་རིག་མེ་ཏོག ཐིམ་ཕུ། རྩོད་ཁ་གོང་ལྡན་ཚོགས།

ཀུན་བཟང་འཕྲིན་ལས། (༢༠༠༧) ཡིག་བསྒྱུར་རྣམ་གཞེག་གི་དེབ། ཐིམ་ཕུ། ཀ་ཨེམ་ཀྱི།

སྐལ་བཟང་ཆོས་འཕེལ་དང་ཆ་རོགས་ཚུ། (༢༠༡༣) ཉེ་འབྲེལ་མིང་ཚིག་རབ་འབྱེད། ཐིམ་ཕུ། ཨིམེ་ཀྱུ་གྲེན་པ་ལྟེས།

རྣམ་རྒྱལ་དབང་ཕྱུག (༢༠༠༧) རྩོད་ཁའི་ཚད་ལྡན་སྐྱན་ཞུ་དང་ཡིག་རིགས་འབྲི་ཐངས། ཐིམ་ཕུ།

རྩོད་གོང་ལྡན་ཆོགས། (༢༠༡༡) ཕལ་སྐད་ཞེ་སའི་རྣམ་གཞེག་སྐད་མའི་འོད་ཟེར། ཐིམ་ཕུ། རྩོད་ཁ་གོང་ལྡན་ཚོགས།

རྩོད་གོང་ལྡན་ཆོགས། (༢༠༡ཅ) འབྲུག་གི་ཡིག་བསྒྱུར་རྣམ་གཞེག ཐིམ་ཕུ། རྩོད་ཁ་གོང་ལྡན་ཆོགས།

རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས། (༢༠༠ཉ) རྩོད་ཁའི་བརྡ་གཞུང་གསར་པ། ཐིམ་ཕུ། རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས།

བསམ་གྲྭབ་ཆེ་རིང་། (༢༠༠ཧ) ཡ་རབས་ལམ་དུ་འདྲེན་པའི་ཕལ་སྐད་དང་ཞེ་སའི་དེབ་ཆུང་། (ཁ་གསལ་མེད)

ཁ འོག་ལུ་བཀོད་མི་དཔེ་དེབ་ཚུ་ཁ་སྐོང་གི་གནས་ཚུལ་ཐོབ་ནི་དོན་ལུ་ལྟག་དགོས་ཨིན།

ཀུན་ལེགས་ཆུལ་མཚན། (༢༠༠ཆ) རྩོད་ཁའི་རྩོད་སྒྲ། སྤྱ་རོ།

སྐལ་བཟང་དབང་ཕྱུག (༢༠༠ཅ) རྩོད་ཁ་བརྡ་དོན་ཆུན་འབྲེལ། བསམ་རྩེ།

བྱམས་པ་ཆོས་ཆུལ། (༡༩༩༩) སུམ་རྩེ་པའི་རྣམ་ཐཱདྲ། ཐིམ་ཕུ། རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས།

རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས། (༡༩༩༠) ཆོགདོན་ཀུན་གསལ་མེ་ལོང་། ཐིམ་ཕུ། རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས།

རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས། (༡༩༩༩) འབྲི་རྩོམ་སྡེགས་དེབ། ཐིམ་ཕུ། རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས།

རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས། (༡༩༩༠) རྩོད་ཁ་ངབ་གསལ་ལམ་བཟང་། ཐིམ་ཕུ། རྩོད་ཁ་གོང་འཕེལ་ལྡན་ཆོགས།

རིན་ཆེན་མཁའ་འགྲོ། (༡༩༩༤) རྩོད་ཁ་དབྱིན་སྐད་ཚིག་མཛོད།

བསོད་ནམས་བསྟན་འཛིན། (༢༠༠༤) ལོ་འགོད་བཏུ་གཉིས་ཀྱི་ཨཱདྲ་པ། ཐིམ་ཕུ། ཀ་ཨེམ་ཀྱི་ལས་སྡེ།

ཀ་ཡིག་ཞིབ་འཚར་བའི་ཆོས་གྲངས་ : ༢༦/༠༢/༢༠༡ཅ ལྟ།

Appendix 1: Course Outline for the Bridge Course in Mathematics

1. Why study mathematics for an Economics programme?
2. Arithmetic
    - 2.1. Revision of basic arithmetic concepts
    - 2.2. Basic Identities
    - 2.3. Multiple operations
    - 2.4. Fractions
    - 2.5. Brackets
    - 2.6. Decimals for addition, subtraction, multiplication and division
    - 2.7. Negative numbers
    - 2.8. Powers- roots and fractional powers
    - 2.9. Basics of logarithms
3. Algebra
    - 3.1. Simplification: multiplication, factorizing, division

3.2. Solving simple equations
3.3. Inequality signs
3.4. Basic Mathematical Formulae

4. The Number system
   4.1. Introduction to real and complex numbers
5. Functions
   5.1. Functions
   5.2. Inverse functions
   5.3. Limits of functions
   5.4. Slope
   5.5. Non-linear functions
6. Equations
   6.1. Solving linear equations - Simultaneous equation system, Substitution Method, Row operation method
   6.2. Solving quadratic equations: factorization, quadratic formula
   6.3. Polynomials
7. Basic and important mathematic formulae

Reading list:

1. Essential reading
   1.1. Rosser, Mike; *Basic Mathematics for Economists*, psychology press 2003.
