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**FarWestern University**  
**Faculty of Education**  
**Curriculum Planning and Leadership**

Course Title : Curriculum and Testing: Theory and Practice  
 Course No. : CPL. 614 Credit hours: 3  
 Level : M.Phil. Teaching hours: 48  
 Semester : First  
 Nature of Course: Theoretical and Practical

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**Course Description**

This is one of the specialized courses for M. Phil./Leading to Ph.D. students who would like to specialize on Curriculum, Planning and Leadership. This course is designed by encapsulating two major parts: curriculum and testing to develop expertise in curriculum development and implementation practices along with test construction and implementation skills to equip prospective teachers and educators with relevant professional and academic knowledge, skills and attitudes.

First part of this course is designed to assist educators, curriculum specialists, curriculum researchers in an academic, governmental, or research setting to sufficiently equip them with skills to enhance their abilities on how curriculum is interrelated among the students and how it is shaped by social, cultural, political, and other forces. Many people still equate a curriculum with a syllabus. Without deeper understanding about curriculum a person will equate syllabus with curriculum which of course will not generally point out the relative importance of its topics or the order in which they are to be studied. While talking about curriculum theory and practice, one requires understanding four ways of approaching it namely curriculum as a body of knowledge to be transmitted, as an attempt to achieve certain ends in students –as product, as process and as praxis.

Second part is focused on construction and implementation of tests. It includes the salient features of classical and modern test theory including the different models of modern test theory, knowledge of testing tools and testing procedures used for measuring behavioral changes in the field and statistical analysis of test scores for developing deeper and clear understanding of these changes.

**Course Objectives**

This course aims to take the students at higher level of understanding and practicing on curriculum, principles, theory, and practice curriculum. After the completion of the course the M Phil scholars will be able to:

- Critically examine the different approaches, innovations, and guiding factors on the curriculum development.
- Identify and classify foundations of curriculum development.
- Explain curriculum theories, their classification and functions.
- Critically analyze principles, purposes and classification of curriculum.
- Critically analyze curriculum design, curriculum practices and its implementation practices with reference to Nepal.
- To develop skills of basic statistical techniques.
- To enable the students, have a deeper understanding of test and its theories.
- To develop the skill for developing qualitative tools of testing for measuring behavioral changes because of development and learning.
- To accustom students with the processes of statistical analysis for the development tests for assessing behavioral changes.

**Course Details:** The course is divided into six units.

Unit	Contents	Duration
1	Introduction to Curriculum	6 hours
2	Foundations of Curriculum	9 hours



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3	Curriculum Theory and Practice	9 hours
4	Test theories	9 hours
5	Testing Tools and Techniques for measuring human development and behavior	9 hours
6	Analysis of test scores	6 hours

### Elaboration of Contents

Specific objectives After the completion of this unit students will be able to:	Content
<ul style="list-style-type: none"> <li>• Explain concept of curriculum</li> <li>• Describe approaches to curriculum planning</li> <li>• Identify factors guiding the development of curriculum principles</li> <li>• Analyze the effect of various factors in curriculum development</li> <li>• Design curriculum using its steps</li> </ul>	<p><b>Unit 1: Introduction to Curriculum (6 hours)</b></p> <p>1.1 Concept of curriculum</p> <p>1.1.1 Curriculum as a body of knowledge</p> <p>1.1.2 Curriculum as a process</p> <p>1.1.3 Curriculum as product</p> <p>1.1.4 Curriculum as praxis</p> <p>1.1.5 Curriculum as a plan of action</p> <p>1.1.6 Curriculum as intended learning outcomes (ILOs)</p> <p>1.1.7 Curriculum as planned learning experiences</p> <p>1.2 Approaches to curriculum planning</p> <p>1.2.1 Behavioral - rational approach</p> <p>1.2.2 Systems approach</p> <p>1.2.3 Academic approach</p> <p>1.2.4 Humanistic approach</p> <p>1.2.5 Postmodern/Reconceptualist approach</p> <p>1.3 Factors guiding the development of curriculum principles</p> <p>1.3.1 Personal values</p> <p>1.3.2 Religious beliefs</p> <p>1.3.3 Social context</p> <p>1.3.4 Geographical location</p> <p>1.3.5 Pedagogy</p> <p>1.3.6 National policy</p> <p>1.3.7 Resources</p> <p>1.3.8 Global context</p> <p>1.4 Steps to develop curriculum</p> <p>1.4.1 Problem identification</p> <p>1.4.2 Needs assessment of learners</p> <p>1.4.3 Goals and objectives</p> <p>1.4.4 Educational Strategies</p> <p>1.4.5 Implementation</p> <p>1.4.6 Evaluation and Feedback</p>
<ul style="list-style-type: none"> <li>• Relate philosophy with curriculum</li> <li>• Introduce educational philosophies</li> <li>• Identify sociological foundations of curriculum</li> </ul>	<p><b>Unit 2: Foundations of Curriculum (9 hours)</b></p> <p>2.1 Philosophical foundations</p> <p>2.1.1 Philosophy and curriculum</p> <p>2.1.1.1 Idealism</p> <p>2.1.1.2 Realism</p>



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<ul style="list-style-type: none"> <li>• Assess the impact of society on education</li> <li>• Reflect the social change on curriculum</li> <li>• Plan for curricular changes</li> <li>• Describe psychological foundations of curriculum</li> <li>• Relate learning theories with curriculum</li> <li>• Incorporate the basic human needs in curriculum</li> <li>• Analyze the international trends in curriculum change</li> </ul>	<p>2.1.1.3 Pragmatism 2.1.1.4 Existentialism</p> <p>2.1.2 Educational philosophies 2.1.2.1 Perennialism 2.1.2.2 Progressivism 2.1.2.3 Essentialism 2.1.2.4 Reconstructionism</p> <p>2.2 Sociological Foundations 2.2.1 Society and education 2.2.2 Social change and curriculum 2.2.3 Planning for curricular change</p> <p>2.3 Psychological foundations 2.3.1 Learning theories and curriculum 2.3.2 Basic human needs and curriculum</p> <p>2.4 International trends in curriculum change</p>
<ul style="list-style-type: none"> <li>• Introduce bases of theorizing curriculum</li> <li>• Explain types of theories used in curriculum development</li> <li>• Assess the influence of various metaphors and theoretical camps on curriculum</li> <li>• Design the curriculum using principles of curriculum development</li> <li>• Clarify the concept of various types of curricula</li> <li>• Critically analyze the impact of various curricula on learning</li> <li>• Implement the curriculum based on best practices</li> <li>• Innovate the practical practices of the curriculum implementation</li> </ul>	<p><b>Unit 3 Curriculum Theory and Practice (9 hours)</b></p> <p>3.1 Theorizing curriculum 3.1.1 Scientific 3.1.2 Philosophical 3.1.3 Humanistic bases</p> <p>3.2 Types of Theories 3.2.1 Formal theory 3.2.2 Event theory 3.2.3 Valuational theory 3.2.4 Praxiological theory 3.2.5 Kohlson's theory</p> <p>3.3 Metaphors and theoretical camps 3.3.1 Traditionalists 3.3.2 Conceptual Empiricists 3.3.3 Reconceptualists/critical theorists 3.3.4 Postmodernists</p> <p>3.4 Principles of curriculum development 3.4.1 Suitability to the age and mental level of the children 3.4.2 According to the specific interests of students 3.4.3 The curriculum should be environmentally centered 3.4.4 The principle of the comprehensive curriculum 3.4.5 Principle of co-relation 3.4.6 The principle of practical work 3.4.7 Principle of flexibility</p>



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	<p>3.5 Classification of curriculum</p> <p>3.5.1 Overt, explicit, or written curriculum</p> <p>3.5.2 Societal curriculum (or social curricula)</p> <p>3.5.3 Hidden or covert curriculum</p> <p>3.5.4 The null curriculum</p> <p>3.6 Best Practices in curriculum design</p> <p>3.6.1 Involve all stakeholders</p> <p>3.6.2 Make faculty a key part of the process</p> <p>3.6.3 Minimize "felt losses."</p> <p>3.6.4 Benchmark against other schools</p> <p>3.6.5 Allot sufficient resources</p> <p>3.6.6 Deeply scrutinize each potential change</p> <p>3.6.7 Stick to a budget</p> <p>3.6.8 Start small, but start</p> <p>3.6.9 Build over time</p>
<ul style="list-style-type: none"> <li>• Give introduction of a psychological test</li> <li>• Explain classical and modern test theories with their features</li> <li>• Clarify the basics standard error of measurement, reliability and validity in classical test theory</li> <li>• Estimate item parameters in modern test theory</li> <li>• Describe models of modern test theory</li> <li>• List of features of modern test theory and describe them</li> <li>• Compare classical and modern test theories</li> </ul>	<p><b>Unit 4: Test theories (9Hours)</b></p> <p>1.1 Introduction to a test as a tool of psychological measurement</p> <p>1.2 Introduction to test theories: Classical and modern test theory (Item response theory of IRT) and their major assumptions</p> <p>1.3 Standard error of measurement, theory of reliability and validity in classical test theory</p> <p>1.4 Estimating item parameters in Modern test theory: Difficulty, discrimination and pseudo-guessing</p> <p>1.5 Models in modern test theory</p> <ul style="list-style-type: none"> <li>•One-Parameter Logistic Model</li> <li>•Two-Parameter Logistic Model</li> <li>•Three-Parameter Logistic Model</li> </ul> <p>1.6 Features of modern test theory: Logical item characteristic curve, Graphical diagnosis with an IRT program, theoretically acceptable items, pathological ICCs, guidelines for Interpreting Item Parameter Values</p> <p>1.7 Comparison between classical and modern test theory</p>
<ul style="list-style-type: none"> <li>• Develop a test and refine it by analyzing item difficulty, item discrimination and power of distracter</li> <li>• Evaluate this test for reliability and validity by using different methods</li> <li>• Interpret test scores by using norms and criteria</li> <li>• Develop numerical, graphical, standard</li> </ul>	<p><b>Unit 5: Testing Tools and Techniques for measuring human development and behavior (9 Hours)</b></p> <p>4.1 Constructing a test</p> <ul style="list-style-type: none"> <li>•Defining quality to be measured</li> <li>•Prepare operational defining of quality to be measured</li> <li>•Preparing test item</li> </ul>



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<p>scale and cumulative point scale</p> <ul style="list-style-type: none"> <li>• Prepare and use Thurstone's, Likert and Gutman's scale</li> <li>• Explain different errors in the process of rating</li> </ul>	<ul style="list-style-type: none"> <li>•Refining the test: item analysis for item difficulty (Item sufficiency), item discrimination and power of distracters</li> </ul> <p>4.2 Evaluating the test</p> <ul style="list-style-type: none"> <li>•Assessment of reliability: Test-retest method, Parallel form method, Split half method, Kuder- Richardson formula, Croanbach's <math>\alpha</math>, Inter rater consistency</li> <li>•Assessment of validity: Content validity, Criterion related validity, Construct validity: Convergent and divergent validity</li> </ul> <p>4.3 Interpretation of test score</p> <ul style="list-style-type: none"> <li>•Norm reference interpretation</li> <li>•Criterion referenced interpretation</li> </ul> <p>4.4 Rating scales</p> <ul style="list-style-type: none"> <li>•Concept and types of rating scales: Numerical scale, Graphical scale, Standard scale and Cumulative point scale</li> <li>•Some specific numerical scales: Thurstone's scale Likert scale and Gutman's scale <ul style="list-style-type: none"> <li>• Errors in rating</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Compute central tendency and dispersion of test score</li> <li>• Calculate the correlation of set of test scores using methods of Pearson and Spearman</li> <li>• Compute different types of correlations</li> <li>• Calculate partial and multiple correlations involving three variables</li> <li>• Use these correlations to interpret test score</li> <li>• Use regression analysis for the purpose of prediction</li> </ul>	<p><b>Unit 6: Analysis of test scores(6Hours)</b></p> <p>6.1 Overview of measures of central tendency: Mean, Median and mode</p> <p>6.2 Overview of measures of dispersion: Mean deviation and Standard deviation</p> <p>6.3 Measures of correlation</p> <ul style="list-style-type: none"> <li>•Pearson's product moment correlation (<math>r</math>)</li> <li>•Spearman's <math>\rho</math> (rho): Non repeated and repeated ranks</li> </ul> <p>6.4 Regression</p> <ul style="list-style-type: none"> <li>•Concept of regression analysis</li> <li>•The regression equation</li> <li>•Uses of regression analysis</li> </ul> <p>6.5 Differences between correlation and regression analysis</p>

**Evaluation Guidelines:** Students will be evaluated through internal (60%) and external evaluation (40%). The students' classroom activities, learning outcomes and performance of the course work based on the following schemes:

**Internal Evaluation :( 60%)**

1. **Regularity (5%):** An appropriate score will be provided to the individual student according to the criteria set on some bases of the extent to which the students attend the class regularly and participate in the engaged learning activities.
2. **Class participation (5%):** Students will be assessed based on the active participation in the classroom.



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3. **Participation in workshop/webinar/ Journal writing (10%):** The students will be given opportunity to participate in related workshop within and outside university, to webinar and journal club. Each student is required to give at least two presentations based on the topic of workshop/webinar or journal club about some contents, methods and outcomes of the course and they are assessed on their presentation and communication skills, arguments, examples and understanding.
4. **Construction and standardization of the test (15%+5% = 20%):** Students will construct a test with multiple choice items in the field of their interest and standardized the test by using various steps of test standardization.
5. **Written test (20%):** This assessment involves the written work relating the students' understanding of a particular content or subject. This might involve critically evaluating a topic based on point of view and evidence using various sources of information. The course instructor will provide a set of topics/ problem areas for written work. Marks distribution for internal evaluation is as follows:

**External Evaluation: 40%**

Students are required to participate in final written examination at the end of semester. It will be conducted by the Examination Division, Dean's Office. The types and number of questions to be included in the test are as follows:

**For physical examination:**

Short answer questions (4 x 5 marks)	20
Essay type/higher order thinking questions (2 x 10 marks)	20
<b>Total</b>	<b>40</b>

**For online examination:**

Questions based on critical and higher order thinking (4 x 10 marks)	40
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**Prescribed and Recommended Books /Reading Materials**

1. Archer, Enzo (2017). *Curriculum Development: Principles and Practices* Edited by <https://www.pdfdrive.com/curriculum-development-principles-and-practices-e54350343.html>
2. Baker, Frank B. (2001). *The basics of item response theory* 2nd edition. USA: ERIC Clearinghouse on Assessment and Evaluation.
3. Ballantine, Jeanne H. & Spade, Joan Z. (Eds.). (2001). *Schools and society: A sociological approach to education*. Belmont, California: Wadsworth, Thomson Learning. [2003 edition is available]
4. Blessinger, P., Reshef, S. and Sengupta, E.(n.d), *The shifting paradigm of higher education*, Retrieved: <https://www.universityworldnews.com/post.php?story=20181003100607371>
5. Burbules & Torres (Eds.). (2000). *Globalization and education: Critical perspectives* (Social Theory, Education & Cultural Changes). Routledge Falmer. ISBN: 0415920477
6. Carnoy, M. (1999). *Globalization and educational reform: what planners need to know?* Paris: UNESCO
7. Garrett, H. E. and Woodworth, R. S. (1965). *Statistics in psychology and education*, (3rd edition). Bombay: Bikas, Feller and Simons Pvt. Ltd.
8. Gregory, R. J. (2005). *Psychological testing: history, principles and applications*, 4th edition. New Delhi: Pearson Education
9. Gupta, S.C. and Kapoor, V.K. (2002). *Fundamental of mathematical statistics* (11th edition). New Delhi: Sultan Chand and Sons.
10. IBE-UNESCO (2017). *Training Tools for Curriculum Development Developing and Implementing Curriculum Frameworks* International Bureau of Education, Published in Geneva, June 2017, Retrieved: <http://www.ibe.unesco.org>, Ref: IBE/2017/OP/CD/02
11. Kelley, A.V. (2004). *The curriculum theory and practice*, Fifth edition. Sage Publications, New-Delhi.
12. Kline, Theresa J. B. (2005). *Psychological testing*. New Delhi: Vistaar Publications
13. Kubiszyn, T and Borich, G. (2003). *Educational testing and measurement*, 7th edition, Singapore: John Wiley and Sons Pte. Ltd.
14. MacNeil, J. D. (1977). *Curriculum: a comprehensive introduction*, Little Brow and Company(Inc) Asia-Pacific Centre



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15. Mangal, S.K. (1990). *Statistics in psychology and education*. New Delhi: Tata McGraw Hill Publishing Company Limited
16. *Metaphors and Theoretical Camps* Retrieved from:<http://ruby.fgcu.edu/courses/ccarter/carterswebpage/ch06/HTML%20Presentation%20folder/tsld012.htm>
17. Metsämuuronen, J. *Handbook of Basics of Research Methods in Human Sciences*. (5th ed.) Researchers' edition, e-book series. Ltd International Methelp Oy
18. Michigan Department of Education (Spring 2014). ***Curriculum Integration Research: Re-examining Outcomes and Possibilities for 21<sup>st</sup> Century Classroom***. Michigan Department of Education, Office of Education Improvement and Innovation
19. Minium E.W., King, B.M. and Bear, G. (2001). *Statistical reasoning in psychology and education* 3rd edition. New York: John Willey and Sons Inc.
20. Munck, Ronaldo & O'Hearn, Denis. (Eds.). (1999). ***Critical development theory: Contributions to a new paradigm***. London: Zed Books.
21. Oliva, Peter F. and Gordon, II William (2013). *Developing the Curriculum (Eighth Edition)*. New York: Pearson Education, Inc.
22. Ornstein, A. and Hunkins, F.(1988). ***Curriculum; foundations, principles and theory***, Allyn and Bacon, USA.
23. Ornstein, A., & Hunkins, F. (2009) ***Curriculum Design. In Curriculum: Foundations, Principles and Issues (5th Ed.)***, pp. 181-206. Boston, MA: Pearson/Allyn and Bacon.
24. Ornstein, Allan and Hunkins Francis P. (2004). ***Curriculum, Foundations, Principles and Issues***. Boston, USA, Allyn and Bacon.
25. Pinar, W.F. (1996, *Understanding curriculum*, Peter, Lang Publishing, Inc., New York.
26. Richardson, J.T.E. (2010). ***Approaches to studying, conceptions of learning and learning styles in higher education***, Learning and Individual Differences. doi:10.1016/j
27. Schreiber, Jörg-Robert and Siege, Hannes (2016). ***Curriculum Framework Education for Sustainable Development***, Edited by Jörg-Robert Schreiber and Hannes Siege, Retrieved: <https://www.pdfdrive.com/curriculum-framework-education-for-sustainable-development-e42227228.html>
28. Singh A.K. (2017). *Tests, measurement and research methods in behavioral science*. New Delhi, India: Bharati Bhawan Publishers
29. Sowell, Evelyn J. (1996). ***Curriculum: An Integrative Introduction*** .New Jersey. Prentice Hall, Inc.
30. UNESCO-IBE (2013). *Training Tools for Curriculum Development*, A Resource Pack, Published in Geneva, November 2013 Retrieved: <http://www.ibe.unesco.org/en.html>, International Bureau of Education (UNESCO-IBE), 2013.
31. Walker, D.F. and Soltis, J. F. (1997). *Curriculum and aims*. New Work and London: Teachers College, Columbia University