



### EDU208 – Measurement and Evaluation Course Syllabus

<b>Course Name</b>	Measurement and Evaluation
<b>Course Code</b>	EDU208
<b>Type of Course</b>	Compulsory
<b>Course Level</b>	Undergraduate
<b>ECTS Credits</b>	5
<b>Weekly Theory Hour</b>	3
<b>Weekly Practice Hour</b>	-
<b>Weekly Laboratory Hour</b>	-
<b>Year</b>	2013
<b>Term</b>	SPRING
<b>Instructor (s)</b>	Assist. Prof. Dr. Seren Başaran
<b>Teaching System</b>	Lecturing; This course utilizes the Moodle course management system to share information and resources. To access the course site, log on to this link: <a href="http://elearning.gau.edu.tr">http://elearning.gau.edu.tr</a> and select the course from list of courses. All course materials will be posted here.
<b>Education Language</b>	ENGLISH
<b>Prerequisite Course</b>	-
<b>Other Recommended Matters</b>	-
<b>Training Status</b>	-
<b>Course Objectives</b>	<p>The major goals of this course are:</p> <ol style="list-style-type: none"> <li>1. Mention the purposes of measurement and evaluation.</li> <li>2. Describe the historical development of testing and evaluation.</li> <li>3. Enumerate the importance and functions of test in education.</li> <li>4. Explain the concept of educational objectives</li> <li>5. Discuss the taxonomy of educational objectives.</li> <li>6. Describe the domains of educational objectives.</li> <li>7. List the uses of classroom test.</li> <li>8. List the types of test used in the classroom.</li> <li>9. Enumerate the advantages and disadvantages of subjective and objective testing.</li> <li>10. Explain test administration and scoring</li> <li>11. Estimate and interpret the reliability of a test.</li> <li>12. Explain the validity of a test as an instrument</li> <li>13. Describe the problems of grading tests.</li> <li>14. Explain quality control in grading system.</li> <li>15. develop a variety of item formats including multiple-choice and constructed response items</li> <li>16. develop answer keys and scoring rubrics for different item formats</li> </ol>

<p><b>Learning Outcomes</b></p>	<p>Upon successful completion of the course, students should be able to:</p> <ol style="list-style-type: none"> <li>1. know how to develop relevant educational assessment</li> <li>2. describe fundamental aspects on the quality of assessment procedures</li> <li>3. evaluate tests and items using statistical and qualitative methods</li> <li>4. incorporate meaning into test score scales using both norm-referenced and criterion-referenced procedures</li> <li>5. use standard setting techniques to set “passing scores” and other performance standards on tests</li> <li>6. develop appropriate documentation to properly communicate the quality of an assessment</li> <li>7. understand the utility of educational assessments within the broader context of educational policy and decision making</li> <li>8. use the results of standardized tests to help make decisions about students and educational systems</li> <li>9. identify flaws in educational assessments</li> <li>10. Develop a sense for the ethical issues in educational measurement and evaluation</li> <li>11. Become successful decision makers, lifelong learners and adaptive</li> <li>12. Be culturally sensitive and empathetic</li> <li>13. Communicate effectively through written and electronic means</li> <li>14. Locate relevant information from a variety of sources and assimilate, interpret and apply knowledge.</li> </ol>
<p><b>Course Content</b></p>	<p>The concepts of measurement and evaluation as applied to behavioural sciences. How to measure outcome of the teaching-learning process in Computer Education. Cognitive, affective and psychomotor measurements. Teacher-made and standardized tests for Computer Education. Interpretation and treatment of the outcomes of the measurements. Basic descriptive statistics. Formative and summative evaluation. Alternative evaluation strategies. Using measuring tools to find desired properties (reliability, validity, usefulness). The measurement approaches based on traditional tools (written exams, short response examinations, multiple-choice tests, oral poll and homework). Measurement on multi-dimensional tools (observations, interviews, research papers, research projects, self-assessment, attitudes scales). Assessment of learning outcomes</p>

Weekly Detailed Plan	WEEK	TOPICS	
		Theoretical	Lab (Practical)
	1	Overview of Testing, Measurement, Assessment and Evaluation	Discussing the distinction between the terms by analogy
	2	Meaning of testing, Types of tests, Uses of tests, function and purpose of testing, characteristics of effective tests, steps involved in a test construction	
	3	the concept of measurement, measurement scales (nominal, ordinal, ratio and interval scales)	
	4	Types of Items, Table of Specifications Matching Objectives with Item Types	Assignment 1: Measurement Project
	5	Bloom's Revised Taxonomy of Objectives Educational Objectives, basic concepts in assessment, types of assessment, teacher-made, standardized, authentic assessments	
	6	Revision	Quiz1
	7	Mid Term	
	8	Item Analysis Methods Item Discrimination, Item difficulty, Distracter analysis	
	9	Types of Validity Content, Construct, Criterion related	Assignment2: Evaluation Project Introducing SPSS
	10	Representation of scores (normal distribution, measures of central tendency and variation)mean, median,mode,range,standard deviation, range	Applications with SPSS
	11	Reliability: Test-Retest, Alternate form, Interscorer, Internal Consistency	Applications with SPSS
	12	Understanding Test Results Test Evaluation Grading system	Interpretive Exercise
	13	Computer Based Testing (CBT), historical details of Adaptive Testing	Quiz 2
	14	Revision	
	15	<b>Final</b>	

<b>Textbook/Recommended Readings</b>	<p>Gronlund, N.E. &amp; Linn, R.L. (1990). Measurement and Evaluation in Teaching (6<sup>th</sup> ed.). USA: MacMillan Publishing Company.</p> <p>Miller, M.D., Linn, R.L., Gronlund, N.E. (2009). Measurement and Assessment in Teaching. Pearson Education: Upper Saddle River, NY, 07458</p> <p>Haladyna, T. M. (1994). Developing and validating multiple-choice test items. Hillsdale: Lawrence Erlbaum.</p> <p>Pallant, J. (2007) SPSS Survival Manual a Step by Step Guide to Data analysis. McGrawHill, NY. third edition</p>
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**ASSESSMENT METHODS**

<b>Term Activities</b>	<b>Number</b>	<b>Semester(Year) Contribution %</b>
Assignment1	<b>1</b>	<b>16</b>
Assignment2	<b>1</b>	<b>16</b>
Quiz	<b>2</b>	<b>10</b>
Interpretive Exercise	<b>1</b>	<b>5</b>
Midterm	<b>1</b>	<b>18</b>
Final	<b>1</b>	<b>35</b>
<b>TOTAL</b>		<b>100</b>
<b>Percentage of Classroom Activities</b>		<b>65</b>
<b>Percentage of Final Activities</b>		<b>35</b>
	<b>TOTAL</b>	<b>100</b>

**Calculation work load within the framework of learning, teaching and evaluation activities**

<b>Activities</b>	<b>Number</b>	<b>Time (Hour)</b>	<b>Total Work Load (hour)</b>
Weekly Theory Hour	14	2	28
Weekly Application Time	14	2	28
Assignment 1	1	15	15
Assignment2	1	20	20
Exercise	1	10	10
Quiz	2	10	20
Midterm	1	12	12
Final	1	20	20

**TOTAL WORKLOAD (hour)= 153**

**COURSE ECTS CREDIT=Total Work Load (hour) / (30 hour/ECTS)= 153 / 30 = 5**

## Programme and learning outcomes

Learning Outcomes (LO)	Programme Outcomes (PO)																	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PO 13	PO 14	PO 15	PO 16	PO 17	
L01		4	3		5												5	
L02		4	3		5												5	
L03		4	3		5												5	
L04		4	3		5												5	
L05		4	3		5												5	
L06		4	3	4	5	5											5	
L07		4	3		5												5	
L08	5	4	3	5	5	5											5	
L09	5	4	3	5	5	5											5	
L10			3		5												5	
L11			3	5	3	5											5	
L12			3		5			5								5		
L13			4															
L14			5	5		5												

### Contribution Level:

- 1 very low
- 2 low
- 3 medium
- 4 high

### Additional Information about the Assignments(100 points each):

Individual projects are assigned to students on a specific topic and at a given grade level that is previously determined by the instructor.

Assignment 1: Measurement Project: Students will construct a test meticulously on a given topic assigned by the instructor by following the steps on hw to construct a test (purpose, goal, objectives, table of specifications, selecting relevant item formats, duration, scoring, answer key)

Assignment 2: Evaluation Project: Students will analyze and interpret the given test score data in terms of reliability and validity. They are asked to provide decisions on how to revise the test items by using item analysis methods (item difficulty, item discrimination, distracter analysis). They should also provide the criterion/norm referenced interpretation of test scores results.

## **CITT Department Programme Outcomes**

- 1.** Having adequate level of knowledge and skills in current/new computing and educational technologies.
- 2.** Having sufficient communication and teaching skills in teaching profession.
- 3.** Being able to teach updated computing technologies efficiently in English.
- 4.** Being able to identify information technology problems through using various analysis and synthesis.
- 5.** Being pragmatic to develop and apply persistent information technology solutions to educational and business problems.
- 6.** Being able to use critical and computational thinking skills to produce alternative solutions at every level of project development life-cycle.
- 7.** Being capable to work in disciplinary and interdisciplinary teamwork.
- 8.** Being sensitive, reactive and responsive to professional, social and ethical issues. Having social and ethical awareness in teaching and in providing solutions to problems.
- 9.** Having adequate level of knowledge and skills in current/new computer hardware, operating systems and computer networks.
- 10.** Adequate level of knowledge and skills in current/new programming languages, programming paradigms (procedural and object-oriented) and programming environments (visual, console-based programming).
- 11.** Being able to analyse, plan and manage educational software design and project development.
- 12.** Having the capability of evaluating and criticising educational software design and development.
- 13.** Adequate level of knowledge in using and integrating current/new e-learning and distance education systems such as learning management systems (LMS).
- 14.** Having sufficient skills and knowledge in using instructional technology and material design.
- 15.** Having skills to apply and use special teaching approaches, theories, teaching strategies, methods and techniques (such as to those people with disabilities).
- 16.** Using appropriate measurement and evaluation techniques to assess students' learning and development in addition to supporting them with good level of feedback.
- 17.** Having sufficient knowledge in the process of establishment of Republic of Turkey. Identifying social, cultural, political and economic problems through understanding Ataturk's principles and revolution.