

General information	Name, code and number of credits	EDU 640, Measurement and evaluation in education, 6 ECTS
	Department	Education
	Program	Graduate
	Semester	Spring 2026
	Subject teacher (s)	Murad Aliyev
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	Lecture room	Onlayn (Microsoft Teams)
	Advice hours	Available online by appointment
Prerequisites	ICT in Education provision and management	
Language of instruction	English	
Type of subject (compulsory/elective)	Compulsory	
Resources	<p>Required reading materials:</p> <p>Kumar, H., Rout, S. K., Dalabh, M., Ahmad, J., Khan, A., Chandan, J. S., Kothari, C. R., & Lokesh, K. (2016). Measurement and evaluation in education (English ed.). Directorate of Distance Education, Tripura University; Vikas Publishing House Pvt. Ltd.</p> <p>Sivakumar, A., & Thirumorthy, G. (2019). Measurement and evaluation in education (1st ed.). A.P.H. Publishing Corporation.</p> <p>Toruzem. (2021). Ölçme ve değerlendirme el kitabı (50 s.). Toros Üniversitesi.</p> <p>https://toruzem.toros.edu.tr/wp-content/uploads/2021/06/Olcme-ve-Degerlendirme-Klavuzu.pdf</p> <p>Note: Additional reading materials will be shared with students during the course.</p>	
Course description	<p>This course examines the theoretical foundations and practical applications of measurement, assessment, and evaluation in education. It explores the purposes and functions of assessment, psychometric principles such as reliability, validity, and objectivity, and the alignment of learning objectives with assessment planning. The course covers the construction of objective and subjective test items, rubric design, evaluation of written work and projects, and alternative assessment methods including portfolios and peer assessment. It also emphasizes the development of measurement instruments and the statistical analysis of</p>	

	assessment data within a statistical software environment. Modern dimensions such as digital assessment technologies, artificial intelligence, ethical considerations, and inclusive assessment practices are integrated throughout the course to ensure a comprehensive and applied understanding of educational evaluation systems.		
Course objectives	The primary aim of this course is to provide a strong theoretical and practical foundation in measurement, assessment, and evaluation in education. The course seeks to develop the ability to design valid and reliable assessment tools, align assessment with learning objectives, interpret assessment data meaningfully, and apply ethical and inclusive principles in evaluation practices. In addition, the course aims to strengthen analytical skills through statistical data analysis and to examine the role of digital technologies and artificial intelligence in modern assessment systems.		
Learning outcomes	<p>Upon completing this course, students should demonstrate the ability to:</p> <ul style="list-style-type: none"> • Explain the fundamental concepts and principles of measurement and evaluation in education. • Apply psychometric principles such as reliability, validity, and objectivity in assessment design. • Develop assessment tools including tests, rubrics, surveys, and alternative assessment formats. • Align learning objectives with appropriate assessment strategies. • Analyze assessment data using statistical software and interpret the results accurately. • Critically evaluate ethical considerations and inclusivity in educational assessment practices. 		
Teaching methods	Mini lectures		+
	Discussions		+
	Practical assignments		+
	Group work		+
	Case studies		+
Assessment	Components	Date/deadline	Percentage (%)
	Class participation		10
	Individual assignments		15
	Group work		10
	Mid-term exam		30
	Final project		35
	Total		100
Rules (Teaching policy)	1. Class Participation (10%)		

and behaviour)

Students should demonstrate their level of understanding by asking questions, participating in discussions, and engaging in group activities during class sessions. This component reflects the student's level of preparation, motivation, and active involvement in the learning process. As well as, it is required to complete assigned readings before class, reflect on the content, and bring questions or ideas for discussion. Being prepared ensures active participation and deeper learning.

2. Individual assignments

The purpose of individual assignments is to develop students' diverse competencies in measurement and evaluation. The critical analysis of tests enables students to examine the quality of existing assessment tools and identify areas for improvement. Rubric design helps students construct objective and systematic evaluation criteria and develop transparent measurement tools for different types of activities. Portfolio assessment allows students to reflect on their own learning process, monitor their development, and engage in self-assessment. Overall, these assignments are designed to strengthen students' analytical and critical thinking skills, as well as their ability to design and evaluate assessment instruments.

Note: Recommendation for the Subject Line in Teams

When submitting assignments via the Teams platform, students must include the assignment title and their full name in the subject line. For example: ***"Rubric Design – Name Surname"***

a. Critical Evaluation of Test Items in Local Textbooks

Purpose:

To develop the ability to analyze and improve assessment tools.

Task:

Select a test consisting of 10–15 questions provided by the instructor or taken from a textbook. Analyze its purpose, examine the distribution of questions according to Bloom's taxonomy, evaluate the accuracy and difficulty level of the items, and propose improvements to enhance the overall quality of the test.

Step by step guidance:

1. Identify the purpose of the test and the targeted skills.
2. Examine the alignment of the questions with Bloom's taxonomy.
3. Evaluate the accuracy and difficulty level of the test items.
4. Propose specific improvements.

b. Rubric Design

Purpose:

To develop the ability to design objective and systematic assessment tools.

Task:

Design an analytical rubric for an oral presentation, essay, or project.

Step by step guidance:

1. Select the type of activity to be assessed.
2. Identify the main criteria (e.g., content, structure, style, presentation skills).
3. Develop a 1–5 point scale for each criterion.
4. Clearly describe what each performance level represents.

c. Portfolio Assessment**Purpose:**

To systematically compile knowledge and skills, engage in reflection, and develop self-assessment abilities.

Task:

Prepare a mini-portfolio. The portfolio should include: a reflective essay, small test results, and examples of practical work.

Step by step guidance:

1. Choose a topic - a concept or skill learned during the course.
2. Write a short reflection addressing the learning process, skills developed, and challenges encountered.
3. Include samples of practical work.
4. Conduct a self-evaluation using a rubric.

Rubric for Individual Assignments (Each 5%)

Assessment will be based on:

- Understanding of the topic – 1%
- Application of relevant theoretical principles – 1%
- Analytical depth and critical thinking – 1%
- Practical relevance and feasibility of solutions – 1%
- Clarity, structure, and academic writing quality – 1%

3. Group Work (10%)

The purpose of the group work in this course is to enable students to develop competencies in designing and analyzing assessment tools, as well as in data collection and presentation. Through test development activities, students gain experience in constructing well-designed questions, evaluating item difficulty levels, and analyzing overall test quality. The survey project strengthens students' ability to define a research topic, design survey instruments, collect data, analyze results statistically, and present findings effectively. These activities support the practical application of theoretical knowledge and foster collaboration and analytical thinking skills.

Note: Recommendation for the Subject Line in Teams

When submitting group assignments on the Teams platform, students must include the assignment title and their group name in the subject line.

For example: ***“Group work – Topic name”***

Survey Instrument Design and Data Analysis

Purpose:

To develop skills in data collection, analysis, and presentation.

Task:

As a group, design and administer a survey related to education, motivation, or learning habits among students attending the class.

Step by step guidance:

1. Define the purpose of the survey.
2. Prepare the survey questions (closed-ended, open-ended, or mixed).
3. Administer the survey.
4. Analyze the results using descriptive statistics.
5. Discuss the strengths and weaknesses of the survey.

Rubric – Survey Instrument Design and Data Analysis (10%)**Assessment will be based on:**

- Clarity of survey purpose and research focus – 2%
- Quality and structure of survey questions – 2%
- Accuracy of data collection and basic statistical analysis – 2%
- Interpretation of findings and critical discussion – 2%
- Organization, teamwork, and clarity of presentation – 2%

4. Midterm Examination (30%)

The midterm examination assesses the knowledge and skills acquired during the first part of the course. It provides students with detailed feedback on their understanding and application of the course topics. At the same time, it offers an opportunity for students to evaluate their level of achievement and identify areas that require further improvement.

5. Final Examination (35%)

The final examination provides a comprehensive evaluation of all knowledge and skills acquired throughout the course. It determines whether students have systematically and thoroughly mastered the course content. By assessing both theoretical understanding and the effective application of practical knowledge, the final examination measures students' overall level of achievement.

6. Academic integrity

All assignments and exams must be original. Plagiarism, cheating, or dishonesty will result in penalties according to university regulations. Always cite sources correctly. Furthermore, you may use Generative AI tools (e.g., ChatGPT) for ideas or exploration, but undisclosed or excessive use may lower your grade. Always indicate how AI contributed to your work, so your own learning and effort remain clear.

Tentative schedule			
Week	Date	Topics to be covered	Tasks/Resources
1.	18.02.2026	<p>Course orientation and Foundations of educational Measurement and evaluation</p> <ul style="list-style-type: none"> • Course syllabus overview (structure, expectations, grading policy) • Definitions: measurement, assessment, and evaluation • Role of assessment in teaching and learning processes 	<p>Syllabus.</p> <p>Sivakumar, A., & Thirumoorthy, G. Measurement and evaluation in education (1st ed.). A.P.H. Publishing Corporation. (2019). Pages: 1-20</p> <p>Kumar et al. (2016). Measurement and evaluation in education (English ed.). Directorate of Distance Education, Tripura University; Vikas Publishing House Pvt. Ltd. Pages: 1-13</p>
2.	25.02.2026	<ol style="list-style-type: none"> 1. Types of evaluation: Diagnostic, Formative, Summative 2. Program evaluation 3. Role of teachers in evaluation process 	<p>Sivakumar, A., & Thirumoorthy, G. Measurement and evaluation in education (1st ed.). A.P.H. Publishing Corporation. (2019). Pages: 21-29</p> <p>Kumar et al. (2016). Measurement and evaluation in education (English ed.). Directorate of Distance Education, Tripura University; Vikas Publishing House Pvt. Ltd. Pages: 14-19</p>
3.	04.03.2026	Principles of Educational Measurement: Reliability, Validity, and Objectivity	<p>Sivakumar, A., & Thirumoorthy, G. Measurement and evaluation in education (1st ed.). A.P.H. Publishing Corporation. (2019). Pages: 63-81</p>
4.	11.03.2026	<p>Aligning Instructional Objectives with Assessment and Evaluation Planning</p> <ul style="list-style-type: none"> • Writing measurable learning objectives • Bloom's taxonomy and cognitive levels • Aligning objectives with assessment • Preparing a table of specifications • Designing an assessment 	<p>Kumar et al. (2016). Measurement and evaluation in education (English ed.). Directorate of Distance Education, Tripura University; Vikas Publishing House Pvt. Ltd. Pages: 19-36</p> <p>Individual Assignment A: Critical Analysis of Textbook Test Items</p> <p>Select a test consisting of 10–15 questions provided by the instructor or taken from a textbook. Analyze its purpose, the distribution of questions</p>

		plan	according to Bloom's Taxonomy, their accuracy and level of difficulty, and prepare recommendations for improving the overall quality of the test.
5.	18.03.2026	<p>Designing Objective Test Items for Effective Measurement</p> <ul style="list-style-type: none"> • Principles of high-quality item construction • Multiple-choice item structure (stem, distractors, key) • Common item-writing flaws and how to avoid them • Writing true–false and matching items • Ensuring content validity in objective tests 	<p>Sivakumar, A., & Thirumoorthy, G. (2019). Measurement and Evaluation in Education (1st ed.). A.P.H. Publishing Corporation. Pages: 29–35.</p> <p>Practical Task: Test Construction</p> <p>Task: As a group, design a short test consisting of 10 questions.</p> <p>Step by step guidance:</p> <p>Select the topic and learning objectives. Determine the types of questions (multiple-choice, true/false, open-ended). Check the accuracy and difficulty level of the questions. Evaluate the test in terms of validity, reliability, and objectivity.</p>
6.	25.03.2026	<p>Constructing Subjective Assessment Tasks and Developing Rubrics</p> <ul style="list-style-type: none"> • Designing short-answer and essay questions • Higher-order thinking assessment tasks • Analytic vs. holistic rubrics • Criteria development and performance descriptors • Providing effective, formative and constructive feedback 	<p>Toruzem. (2021). Ölçme ve değerlendirme el kitabı. Toros Üniversitesi. Pages: 24-29; 39-42 https://toruzem.toros.edu.tr/wp-content/uploads/2021/06/Olcme-ve-Degerlendirme-Klavuzu.pdf</p>
7.	01.04.2026	<p>Evaluating Written Assignments and Project-Based Assessment</p>	<p>Toruzem. (2021). Ölçme ve değerlendirme el kitabı. Toros Üniversitesi. Pages: 29-31, 36-38</p>

		<ul style="list-style-type: none"> • Performance-based assessment principles • Scoring consistency and inter-rater reliability • Moderation and standardization practices • Assessing research papers and project work 	<p>Individual Assignment B: Rubric Design Develop an analytic rubric for an oral presentation, essay, or project.</p>
Mid-term exam			
8.	08.04.2026	<p>Alternative and Authentic Assessment Approaches</p> <ul style="list-style-type: none"> • Portfolio assessment design and evaluation • Self-assessment strategies • Peer assessment models and reliability concerns • Authentic assessment in real-world contexts • Ethical considerations in participatory evaluation 	<p>Toruzem. (2021). Ölçme ve değerlendirme el kitabı. Toros Üniversitesi. Pages: 29-31, 36-38</p> <p>Individual Assignment C: Portfolio Assessment</p> <p>Task: Prepare a mini-portfolio. The portfolio should include: an essay/reflection, test analyses, samples of practical work, etc.</p>
9.	15.04.2026	<ul style="list-style-type: none"> • Measurement and evaluation in the age of digital technologies. • Digital assessment and feedback in the age of artificial intelligence. 	<p>Brookhart, S. M., & McMillan, J. H. (Eds.). (2020). Classroom assessment and educational measurement. Routledge. Pages: 224-241</p>
10.	22.04.2026	<p>Development of Measurement Instruments.</p>	<p>Sivakumar, A., & Thirumoorthy, G. (2019). Measurement and evaluation in education (1st ed.). A.P.H. Publishing Corporation. Pages: 106-117.</p> <p>Group Work: Develop a measurement instrument on pre-assigned topics and analyze the results.</p>

11.	29.04.2026	Statistical Analysis of Assessment Results - Theoretical Foundations.	Sivakumar, A., & Thirumoorthy, G. (2019). Measurement and evaluation in education (1st ed.). A.P.H. Publishing Corporation. Pages: 118-159
12.	06.05.2026	Practical Work in Statistical Analysis Software. Subtopics: <ul style="list-style-type: none"> • Creating a dataset • Coding variables • Data entry and cleaning • Calculating descriptive statistics • Conducting reliability analysis • Applying basic statistical tests and interpreting results 	Practical Task: Analyze the collected data in a statistical software environment. Visualize the results using graphs. Prepare a brief statistical report.
13.	13.05.2026	Ethics and Inclusivity in Assessment.	Mehrens, W.A., & Lehmann, I.J. (1973). Measurement and evaluation in education and psychology. Pages: 398-426, 435-452
14.	20.05.2026	Presentation of Group Work.	
15.	27.05.2026	Wrap up	
Final exam			