

Course/module description

Course provider (institution)	Osh Technological University named after M. Adyshev (OshTU)
Course title	GIS and Data Visualization
Target group	PhD Students (Cartography and Geoinformatics)
Type (compulsory/optional):	Mandatory
Number of ECTS credits allocated (if applicable); estimated workload	8 ECTS (240 academic hours)
Mode of delivery (face-to-face/ distance learning etc.); number of contact hours	90 hours (face-to-face hours) 150 hours (Self-learning)
Language of instruction	Kyrgyz/Russian/English
Prerequisites and co-requisites (if applicable)	Geographic Information Systems (GIS), Informatics and some programming experience in any language.
Course aims:	<p>The «GIS and Data Visualization» course aims:</p> <ul style="list-style-type: none"> - to provide holistic knowledge and practical skills on GIS development: from conceptualization to realization of advanced GIS; - to provide theoretical knowledge on georeference systems and cartographic projections; - to provide the theoretical underpinnings of the subject and allow them to build skills in the practice of creating and use advanced methods for data visualization; - to demonstrate and use of various geospatial data applying advanced cartographic technologies focusing on critical link between data analytics outputs and the human perception and cognition of the meaning of those outputs.
Course content:	<p>The syllabus will cover topics from:</p> <p style="padding-left: 40px;">Advanced GIS</p> <p style="padding-left: 40px;">Geospatial data and Information, Geocoding</p> <p style="padding-left: 40px;">Cartography and data visualization</p>

	<p>Geospatial data processing</p> <p>GIS Data Quality</p> <p>WebGIS and MobileGIS</p> <p>GIS development, strategic planning and implementation</p>
Learning outcomes:	<p>Student will be able to:</p> <ul style="list-style-type: none"> - Apply fundamental principles of cartographic design by demonstrating an understanding of visual balance, layout, typography, color, scale, and map projection. - Demonstrate creative and critical thinking with informative mapping and data visualization using thematic and statistical methods. - Collect and prepare data from various sources for mapping and data visualization.
Recommended or required reading and other learning resources/tools:	<p>1. Learning Materials (presentations, textbook, audio and video materials)</p> <p>2. Software: GIS software</p> <p>3. Recommended Books:</p> <ol style="list-style-type: none"> 1.
Planned learning activities and teaching methods:	<ol style="list-style-type: none"> 1. Regular lectures; 2. Laboratory tasks; 3. Discussions in class; 4. Project work/Group activity.
Assessment methods and criteria:	<ol style="list-style-type: none"> 1. Lab Assignments - (30%) 2. In class activity – (10%) 3. Project presentation - 40% 4. Final exam - 20% <p>Grading:</p> <p>80% - 100% – 5 (Excellent)</p> <p>60% - 79% - 4 (Good)</p> <p>40% - 59% - 3 (Satisfactory)</p> <p>less than 40% - 2 (Unsatisfactory)</p>
Additional information:	<p>Course instructor – Gulzara Mamazhakypova</p> <p>Contacts: gulzara.mamazhakypova@mail.com, mob.tel.: +996-777-797070</p>