

Prerequisite status: -	Unit Type: One theoretical, one practical	The number of units: 2	Name of the lesson: <b>Synoptic climatology methods</b>
Type of additional practical training: Practical <input checked="" type="checkbox"/> Has it <input type="checkbox"/> does not have <input type="checkbox"/> science travel <input type="checkbox"/> Laboratory <input checked="" type="checkbox"/> Workshop <input type="checkbox"/> , Seminar <input type="checkbox"/>		The number of hours: 48	Expert professor to teach: Synoptic climatology
<b>Goals:</b> Acquaintance of students with the theoretical foundations of synoptic climatology			
<b>Headlines</b> <p>1- A review of the basics of dynamic climatology (Complete vorticity, Complete divergence, fundamental forces, gravity force, Pressure-gradient force, Friction force, apparent forces, Centrifugal force, Coriolis force, atmospheric mass, Earth's current, bare current, cyclostrophic current, The relationship between flow lines and direction lines)</p> <p>2- A review of the basic concepts of synoptic climatology</p> <p>3- General principles of preparation and interpretation of air maps</p> <p>4- Synoptic processes and systems</p> <p>5- Analysis of circulation patterns by manual method</p> <p>6- Analysis of circulation patterns by quantitative method</p> <p>7- The relationship between circulation patterns and environmental characteristics</p> <p>8- Patterns and indicators of remote connection</p> <p>9- New topics and recent advances in synoptic climatology</p> <p>10- Synoptic analysis of weather systems in Iran</p> <p>11- Practical work and programming with synoptic analysis software</p>			
<b>Reference</b> <p>1- Alijani, Bohlul, 2002, Synoptic Climatology, Samt Publications</p> <p>2- Lashkari, Hassan, 2011, principles, and bases of preparation and interpretation of climate maps and charts, Shahid Beheshti University Publications.</p> <p>3- Qavidel, Rahimi, Youssef, 2012, climate synoptic mapping and interpretation using Grads software, Soha Danesh Publications</p> <p>4- Shawn Milrad, 2017, Synoptic Analysis and Forecasting: An Introductory Toolkit, American Meteorological Society.</p> <p>5- Lackmann Gary, 2012, Multitude Synoptic Meteorology: Dynamics, Analysis, and Forecasting, American Meteorological Society</p>			