

3/7/2024 DATE

REQUIRED COURSE  
 ELECTIVE COURSE

MSD DIVISION

NEW COURSE  
 REVISION

# Lake Land College

## Course Information Form

<b>COURSE NUMBER:</b>	ESC-102	<b>TITLE: (30 Characters Max)</b>	Weather and Climate						
<b>SEM CR HRS:</b>	4	<b>Lecture:</b>	3	<b>Lab:</b>	2	<b>ECH:</b>	5		
<b>Course Level:</b>	<input checked="" type="checkbox"/> Gen Ed/IAI <input type="checkbox"/> Baccalaureate/Non-IAI	<input type="checkbox"/> Career/Technical <input type="checkbox"/> Dev Ed/Not in Degree Audit	<b>Clinical Practicum:</b>	0	<b>Work-based Learning</b>	0	<b>WBL ECH:</b>	PER CONTRACT	
<b>COURSE PCS #</b>	11 - 40.0401		<b>IAI Code</b>	P1 905L		<b>Contact Hours (Minutes Per Week)</b>			
<b>Repeatable (Y/N):</b>	N	<b>Pass/Fail (Y/N):</b>	N	<b>Variable Credit (Y/N):</b>	N	<b>Min:</b>	<b>Max:</b>		
						16 Wks	250	8 Wks	500
<b>Prerequisites:</b>									
<b>Catalog Description: (40 Word Limit)</b>	This course emphasizes the dynamics of the atmosphere with focuses on atmospheric evolution, seasonal controls of climate, human impacts, atmospheric humidity, air pressure, severe weather, and climate classification. Extensive use of Internet resources and software will be required for this course.								

List the Major Course Segments (Units)				Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
1	Energy and Mass			15	5		
2	Water in the Atmosphere			10	5		
3	Air Pressure and Winds			10	5		
4	Severe Weather and Forecasting			10	5		
5	Human Impacts on the Atmosphere			4	3		
<b>TOTAL</b>				<b>49</b>	<b>23</b>	<b>0</b>	<b>0</b>

EVALUATION			
<b>QUIZZES</b> <input checked="" type="checkbox"/>	<b>EXAMS</b> <input checked="" type="checkbox"/>	<b>ORAL PRES</b> <input type="checkbox"/>	<b>PAPERS</b> <input checked="" type="checkbox"/>
<b>LAB WORK</b> <input checked="" type="checkbox"/>	<b>PROJECTS</b> <input checked="" type="checkbox"/>	<b>COMP FINAL</b> <input type="checkbox"/>	<b>OTHER</b> <input checked="" type="checkbox"/>

COURSE MATERIALS	
<b>TITLE:</b>	Understanding Weather and Climate
<b>AUTHOR:</b>	Aguado & Burt
<b>PUBLISHER:</b>	Pearson
<b>VOLUME/EDITION/URL:</b>	7th
<b>COPYRIGHT DATE:</b>	2015

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
<b>Energy and Mass</b>		<b>The student will be able to:</b>
Introduction to the Atmosphere	5	demonstrate knowledge of weather and climate concepts through classroom participation, verbal discussions, lab exercises quizzes, written exams and homework assignments.
Solar and Terrestrial Radiation	9	
Top Temperature	6	
<b>Water In the Atmosphere</b>		
Understanding Measure of the Humidity	5	
Using cloud structures, types and atmospheric stability	5	
Reading weather maps and understanding precipitation patterns	5	
<b>Air Pressure and Winds</b>		
What is Air Pressure	2	
Factors Affecting Wind	5	
Surface Winds vs. Upper Level Winds	3	
Circulation in the Atmosphere	5	
<b>Severe Weather and Forecasting</b>		
Air Masses	2	
Weather Patterns	5	
Thunderstorms and Tornadoes	4	
Hurricanes	4	
<b>Human Impacts on the Atmosphere</b>		
Global Warming	7	
<b>72</b>		

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
	Demonstrate an understanding of solar and terrestrial radiation concepts associated the seasons, radiation budgets, and climate change.
	Demonstrate an understanding of humidity through measurements and shifts in the state of water as it relates to precipitation.
	Demonstrate an understanding of air pressure as it relates to surface and upper level winds.
	Demonstrate an understanding of weather forecasting as it relates to severe weather and the use of remote sensing technologies like satellite and radar.

\* Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.