



**Jordan University of Science and Technology**  
**Faculty of Agriculture**  
**Natural Resources & Environment Department**

NR411 Climate Change: Impact, Adaptation And Mitigation - JNQF Level: 6

Second Semester 2023-2024

**Course Catalog**

3 Credit Hours. Climate change poses the single largest, global threat to life on Earth, and yet the United States and our schools lag far behind the international community in educating and acting responsibly to mitigate the causes and effects of a warming planet.

**Teaching Method:** Blended

**Text Book**

<b>Title</b>	What we know about Climate Change
<b>Author(s)</b>	Emanuel, K
<b>Edition</b>	2nd Edition
<b>Short Name</b>	REF #1
<b>Other Information</b>	2018 - The MIT Press

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
REF #2	Climate Change: The Facts.	Marohasy J (Editor). Authros: Abbot. J, et.al.	2nd Edition	2020

**Instructor**

Name	<b>Prof. Maher Tadros</b>
Office Location	C4L2
Office Hours	
Email	mtadros@just.edu.jo

**Class Schedule & Room**

Section 1:

Lecture Time: Sun, Tue : 09:30 - 10:30

Room: C5020

**Tentative List of Topics Covered**

<b>Weeks</b>	<b>Topic</b>	<b>References</b>
Weeks 1, 2	Introduction, Definition of weather and Climate, What might happen to Earth`s Climate, Understanding Climate Concepts, Climate Adaptation, How and Why is Climate Changing, Climate Change and Energy, Conclusion.	From <b>REF #1</b> , From <b>REF #2</b>
Weeks 3, 4, 5, 6	The Elements of Weather and Climate, Temperature, Air Pressure, Wind Speed and Direction, Humidity, Precipitation, Visibility, Clouds, Sunshine Duration.	From <b>REF #1</b> , From <b>REF #2</b>
Weeks 7, 8	Atmosphere, Layers of Atmosphere, Troposphere, Stratosphere, Mesosphere, Ionosphere, Exosphere,	From <b>REF #1</b>
Weeks 9, 10, 11	Climate Change, Introduction, Measurements, How has Climate Changed, What is Climate Change?, Is Earth`s Climate Changing, Causing The Climate Change, Natural and Human-Induced Causes.	From <b>REF #1</b>
Weeks 12, 13	Causes and Effects of Climate Change, Factors of causes, Factors of Effects, Initiatives for Action.	From <b>REF #2</b>
Weeks 14, 15, 16	The Greenhouse Effects, Earth`s Climate in the Past, Greenhouse gases in the Atmosphere, What is an Ozone layer, Ozone Layer Depletion, Causes of Ozone Depletion, Solution of Ozone Layer Depletion.	From <b>REF #1</b> , From <b>REF #2</b>

<b>Mapping of Course Outcomes to Program Outcomes and NQF Outcomes</b>	<b>Course Outcome Weight (Out of 100%)</b>	<b>Assessment method</b>
Participants will have reliable knowledge of the science behind climate change and the important role played by CO2 and other greenhouse gas (GHG) emissions. [1PLO3, 1PLO4, 1PLO6, 1PLO9] [1L6K1, 1L6K2]	25%	Midterm, Short Exams, Final Exam
Knowledge of and the ability to describe the many impacts of climate change. [1PLO7, 1PLO8, 1PLO9] [1L6S1, 1L6S2, 1L6S3]	25%	Midterm, Short Exams, Final Exam
Learn about the global threat and the causes of climate change. [1PLO1, 1PLO2, 1PLO8, 1PLO9] [1L6C1, 1L6C2]	25%	Short Exams, Final Exam
Knowledge of the wide range of options to mitigate the effects of climate change as well as adaptive strategies for a warming planet. [1PLO4, 1PLO5, 1PLO6, 1PLO7] [1L6C3, 1L6C4, 1L6C5]	25%	Short Exams, Final Exam

Relationship to Program Student Outcomes (Out of 100%)								
PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
6.25	6.25	6.25	12.5	6.25	12.5	14.58	14.58	20.83

Relationship to NQF Outcomes (Out of 100%)									
L6K1	L6K2	L6S1	L6S2	L6S3	L6C1	L6C2	L6C3	L6C4	L6C5
12.5	12.5	8.33	8.33	8.33	12.5	12.5	8.33	8.33	8.33

Evaluation	
Assessment Tool	Weight
Midterm	40%
Short Exams	10%
Final Exam	50%

Policy	
Exams	All exams are closed book and notes. The final exam is comprehensive (covering all teaching materials). Incomplete exams need approval from the department chair and the faculty dean.
Cheating	Prohibited, and in case of cheating, the student will be subject to punishment in accordance with the university regulations
Attendance	Students are expected to attend all class meetings regularly. If the student is absent for more than 20% of the course, the student will be prevented from taking all subsequent exams and assigned an F (Failure) grade in the course (deprived by absence). This maximum includes both excused and unexcused absences.
Participation	Participation is highly encouraged
Withdraw	The student can withdraw from the course in accordance with the timeline defined by the university regulations

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