MODULE DESCRIPTION FORM

Module Information			
Module Title	**SUSTANIBLE DEVELOPMENT**	**Module Delivery**	
Module Type	**Core learning activity**	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	**SUD1090**		
ECTS Credits	**5**		
SWL (hr/sem)	**125**		
Module Level	1	**Semester of Delivery**	2
Administering Department	SSWR1969, PLPR1966, HOLA1974, FORE1964, FOSC1965, FICR1973, ANPR1964, AGEC1979, AETT1979, AGME1986	**College**	AGFO1964
Module Leader	**zwaid fathiy abd** Omar Dheyaa Mohammed Asmaa Mohammed Adil **Moyassar Mohammed Aziz** **Nofal Issa Mohamed** **Taha Mohammed Taki** **Firas Kadhim Dawoo Aljuboori** **Khaled Anwer Khaled ALKHALED** **Talal Saeed Hameed** Sumood Husain Ai Al-Hadedy	**e-mail**	zu-kh1985@uomosul.edu.iq dr.omaralmallah@uomosul.edu.iq asmaama@uomosul.edu.iq moyassar_aziz@uomosul.edu.iq nofelemh@uomosul.edu.iq tahataqi@uomosul.edu.iq firasaljuboori@uomosul.edu.iq khalid.anwar31@uomosul.edu.iq stalal1982@uomosul.edu.iq sumod_husain@uomosul.edu.iq
Module Leader's Acad. Title	Professor **Assistant Professor**	**Module Leader's Qualification**	**Ph.D.** **MSc.**
Module Tutor	Ramia Amer Khalil	**e-mail**	Ramiaalalaf83@uomosul.edu.iq
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Scientific Committee Approval Date	15/10/2024	**Version Number**	1.0

Relation with other Modules			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	
Module Aims, Learning Outcomes and Indicative Contents			
Module Objectives	1. Understand the concept of sustainable development and its various dimensions.		

	2. Analyze the impact of environmental and social changes on achieving sustainability. 3. Study the role of government policies and innovation in supporting sustainable development. 4. Raise awareness of the importance of achieving social justice within the goals of sustainability.
Module Learning Outcomes	LO#1: How sustainability considerations can actually be embedded within an individual's and community's day to day activities and decision-making processes. LO#2: How existing sustainable development tools and methods can be adjusted/fine-tuned accordingly, and how to design sustainability performance metric to assess the impact on community's sustainable development. LO#3: How to design feedback systems that can readjust the pathways of processes and procedures to ensure success in implementing sustainable development initiatives. LO#4: How to empower communities set sustainability targets using appropriate metrics.
Indicative Contents	The theoretical and cognitive foundation of the concept of sustainable development will be developed and an experiential understanding of emerging global challenges for sustainable environmental and community governance systems will be gained through theoretical lectures in the fifteen weeks. By focusing on seminars related to sustainable development and simulating successful country experiences, the capacity of communities and students will be enhanced and their research role and development in establishing the necessary information links and feedback loops within the system will be raised to allow system actors to have a sound understanding of developing sustainable solutions. This will enable visualization of the different factors that affect sustainability and proposing an action plan for building sustainable communities. Total hrs = 62 = SSWL - (Exam hrs) = 62-2= 60 (Time table hrs x 15 weeks)

Learning and Teaching Strategies	
Strategies	1. Interactive lecture, Brainstorming 2. Dialogue and discussion 3. Assigning reports 4. Quizzes 5. Show examples for writing scientific reports in the correct formats.

Student Workload (SWL)			
Structured SWL (h/sem)	62	**Structured SWL (h/w)**	4
Unstructured SWL (h/sem)	63	**Unstructured SWL (h/w)**	4

Total SWL (h/sem)		125			
Module Evaluation					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	15% (15)	3, 9 ,11	LO#1, LO#2, LO#3 and LO#4
	Collage Assignments	2	10% (10)	2 and 12	LO#1 and LO#3
	Projects	1	10% (10)	Continuous	All
	Report	1	5% (5)	14	LO#4
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO#1, LO#2
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Theory Syllabus)	
	Material Covered
Week 1	Introduction to Sustainable Development
Week 2	Economic, Social, and Environmental Dimensions of Sustainable Development
Week 3	History and Evolution of the Concept of Sustainable Development
Week 4	(Sustainable Development Goals (SDGs
Week 5	Sustainability in Natural Resource Management
Week 6	Climate Change and Its Impact on Sustainable Development
Week 7	Midterm Exam
Week 8	The Role of Education and Awareness in Achieving Sustainable Development
Week 9	Renewable Energy and Sustainability
Week 10	Sustainability in the Agricultural and Food Sector
Week 11	Government Policies and Their Role in Achieving Sustainable Development
Week 12	Innovation and Technology in Supporting Sustainability
Week 13	Social Justice and Equality in Sustainable Development
Week 14	Global Challenges Facing Sustainable Development
Week 15	The Future of Sustainable Development
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Seminars Syllabus)	
Week	**Material Covered**
Week 1	• Analysis of environmental challenges and opportunities in sustainable development.
Week 2	• Analyzing the role of technology in supporting sustainability.

Week 3	• Workshop on sustainability applications in local projects.
Week 4	• Netherlands: Circular farming in the dairy sector, reusing animal waste for energy and bioplastics, using bioreactor technology integrated with IoT sensors
Week 5	• Smart Pastures project in Mongolia, rotational grazing systems based on satellite monitoring, to restore 15% of degraded pastures annually
Week 6	• Intensive Rice Project in Madagascar, implementing SRI (System of Rice Intensification) to increase production by 50% while saving water in a geography: highland areas in Antananarivo
Week 7	• Smart Sustainable Farms in Ethiopia, integrating conservation agriculture with drought early warning systems: to increase crop resilience by 40% in Tigray regions.
Week 8	• Brazil: Low Carbon Agriculture Model (ABC Program), reducing methane emissions by 38% through integrated livestock waste management
Week 9	• China: Loess Plateau Rehabilitation, largest ecological restoration project (35,000 km²), using terraced terraces + water harvesting + selective afforestation.
Week 10	• Jordan: "Water Rationing" project, micro-drip irrigation technology with big data analysis, by reducing water consumption by 70% in vegetable cultivation.
Week 11	• Zambia: Conservation agriculture with FAO, zero tillage + permanent mulch + crop rotation, to increase maize production by 120% in 5 years
Week 12	• "Palm Oasis" project in Morocco, combating desertification through solar drip irrigation systems.
Week 13	• African Drylands Program (Senegal), cultivation of salt-resistant sorghum with fog harvesting, to reduce rural youth migration by 55%
Week 14	• "Integrated Farming" project in the Niger Delta, fish farming with rice cultivation in the same water body, to increase income by 300% while improving biological fertility
Week 15	Project presentations and discussions on feasibility and conclusions.

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	Omar bin Akhdar Khalfawi "Sustainable Development"	no
Recommended Texts	Abdullah bin Abdulrahman Al-Baridi "Sustainable Development: An Integrated Approach to Sustainability Concepts and Applications"	
Websites		

Grading Scheme				
Group	**Grade**	Grade	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	Excellent	90 - 100	Outstanding Performance
	B - Very Good	Very Good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Sound work with notable errors
	D - Satisfactory	Average	60 - 69	Fair but with major shortcomings
	E - Sufficient	Acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	Fail (in process)	(45-49)	More work required but credit awarded
	F – Fail	Fail	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.