

MODULE DESCRIPTION FORM

Module Information			
Module Title	SUSTANIBLE DEVELOPMENT		Module Delivery
Module Type	Core learning activity		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input checked="" type="checkbox"/> 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, AGECE1979, 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	N.A.	e-mail	N.A.
Peer Reviewer Name	N.A.	e-mail	N.A.
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	<ol style="list-style-type: none"> 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	<p>LO#1: How sustainability considerations can actually be embedded within an individual's and community's day to day activities and decision-making processes.</p> <p>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.</p> <p>LO#3: How to design feedback systems that can readjust the pathways of processes and procedures to ensure success in implementing sustainable development initiatives.</p> <p>LO#4: How to empower communities set sustainability targets using appropriate metrics.</p>
Indicative Contents	<p>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.</p> <p>Total hrs = 62 = SSWL - (Exam hrs) = 62-2= 60 (Time table hrs x 15 weeks)</p>

Learning and Teaching Strategies

Strategies	<ol style="list-style-type: none"> 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	3hr	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)

	Material Covered
Week 1	<ul style="list-style-type: none"> Analysis of environmental challenges and opportunities in sustainable development.
Week 2	<ul style="list-style-type: none"> Analyzing the role of technology in supporting sustainability.
Week 3	<ul style="list-style-type: none"> Workshop on sustainability applications in local projects.
Week 4	<ul style="list-style-type: none"> Netherlands: Circular farming in the dairy sector, reusing animal waste for energy and bioplastics, using bioreactor technology integrated with IoT sensors
Week 5	<ul style="list-style-type: none"> Smart Pastures project in Mongolia, rotational grazing systems based on satellite monitoring, to restore 15% of degraded pastures annually

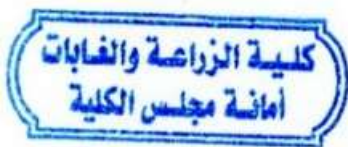
Week 6	<ul style="list-style-type: none"> Intensive Rice Project in Madagascar, implementing SRI (System of Rice Intensification) to increase production by 50% while saving water in a geography: highland areas in Antananarivo
Week 7	<ul style="list-style-type: none"> Smart Sustainable Farms in Ethiopia, integrating conservation agriculture with drought early warning systems: to increase crop resilience by 40% in Tigray regions.
Week 8	<ul style="list-style-type: none"> Brazil: Low Carbon Agriculture Model (ABC Program), reducing methane emissions by 38% through integrated livestock waste management
Week 9	<ul style="list-style-type: none"> China: Loess Plateau Rehabilitation, largest ecological restoration project (35,000 km²), using terraced terraces + water harvesting + selective afforestation.
Week 10	<ul style="list-style-type: none"> Jordan: "Water Rationing" project, micro-drip irrigation technology with big data analysis, by reducing water consumption by 70% in vegetable cultivation.
Week 11	<ul style="list-style-type: none"> Zambia: Conservation agriculture with FAO, zero tillage + permanent mulch + crop rotation, to increase maize production by 120% in 5 years
Week 12	<ul style="list-style-type: none"> "Palm Oasis" project in Morocco, combating desertification through solar drip irrigation systems.
Week 13	<ul style="list-style-type: none"> African Drylands Program (Senegal), cultivation of salt-resistant sorghum with fog harvesting, to reduce rural youth migration by 55%
Week 14	<ul style="list-style-type: none"> "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" عمر بن اخضر خلفاوي " التنمية المستدامة"	No
Recommended Texts	Abdullah bin Abdulrahman Al-Baridi "Sustainable Development: An Integrated Approach to Sustainability Concepts and Applications" عبدالله بن عبد الرحمن البريدي " التنمية المستدامة : مدخل تكاملي لمفاهيم الاستدامة وتطبيقاتها"	
Websites		

Grading Scheme	
----------------	--

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



ر.م.ع. عبدالعزیز علی



م. د. نواف غازي عبود

د. عمر رضا محمد
رئيس قسم الانتاج الحيواني

أ.د. خالد مصطفى سلطان
رئيس اللجنة العلمية