Training Initiatives on Environment Aspects of Sustainability

In 2023, JUST carried out a comprehensive training program including various types of initiatives and events with a focus on sustainability and environmental aspects. These initiatives encompass workshops, hackathons, training courses, and collaborative projects aimed at fostering innovation, leadership, and knowledge exchange among faculty, staff, and students.

Number	Event		Target group	Hours	Evidence
1.	Hackathon in "Green Building Leadership in Jordan"	During the second week of the "Leadership in Green Building in Jordan" Hackathon, held at the Center of Excellence for Innovative Projects, a series of workshops took place on Sunday, February 19, 2023. Eng. Mohammad Barakat led the first workshop on entrepreneurship, followed by Eng. Iyad Al-Rawashdeh's session on renewable energy, and a presentation on the basics of photovoltaic cells by student Saif Oqla. Subsequently, participants explored the technology incubator within the center, guided by Eng. Mustafa Al-Saleh, Eng. Nedaa Alrabai, and Mr. Alaa Mayyas. The students expressed admiration for the incubator's capabilities, foreseeing its potential to support their future projects.	Faculty, staff and students	16	https://2u.pw/QOPqAfq
2.	Workshop entitled (Technological innovation and economic growth in the context of health care).	The training workshop titled "Technological Innovation & Economic Growth in the Healthcare Context" commenced on Sunday, October 1, 2023, at the Center of Excellence for Innovative Projects, featuring Mr. Mohannad Al-Arqan, a Master of Health Economics from the University of Sfax/Tunisia, as the facilitator. Addressing pertinent issues in the contemporary global arena concerning the economics of technological innovation, particularly within the healthcare services sector, the workshop was inaugurated by Professor Muhannad Quwaider, the Center Director, who encouraged participants to extract maximum benefit from the insights presented. Mr. Al-Arqan	Faculty, staff and students	12	https://2u.pw/5qb75SEo

		delineated the workshop's objectives and themes, delving into topics such as innovation as a catalyst for economic growth, encompassing both social-historical and technical dimensions. Discussions also encompassed the impact of the industrial revolution on economic growth, the concept of great enrichment, challenges confronting healthcare, and the nuances of intellectual property and patents. Scheduled to span 12 hours across six days, from October 1st to 12th, 2023, the workshop promises an insightful exploration into these critical areas.			
3.	Hackathon in "Using Information Technology in Environmentally Friendly Solutions"	On Sunday, May 14, 2023, the Hackathon "Using Information Technology in Environmentally Friendly Solutions" commenced, facilitated by support from the German Agency for Academic Exchange Services (DAAD) under the "SAXEED.ECO" project. This collaborative endeavor involves Jordan University of Science and Technology, Yarmouk University, Mostaganem University in Algeria, and Chemnitz University in Germany. The hackathon's primary objective is to foster knowledge exchange and innovation among university students, focusing on leadership and leveraging information technology for environmental conservation. Participants are tasked with developing effective, sustainable, and innovative solutions to environmental challenges. Throughout the week-long event, participating teams engage in workshops and entrepreneurship training, alongside seminars and competitions. The hackathon concludes on May 18, 2023, with the announcement of winning teams at the closing ceremony. Notably, students from Jordan University of Science and Technology, as well as the Director and staff of the Center of Excellence for Innovative Projects,	Faculty, staff and students	16	https://2u.pw/7DaKZkl

		actively participated in this collaborative initiative.			
4.	Nahawand School Al-Ramtha visit to the center.	As part of its commitment to supporting the local community and fostering a culture of creativity and entrepreneurship, the Center of Excellence for Innovative Projects welcomed a group of teachers and students from Nahawand School in Al-Ramtha on Thursday, February 2, 2023. During their visit, they had the opportunity to meet with the center's management, led by Prof. Muhannad Quwaider, along with the staff from the Technology Incubator and Technical Support Division, including Eng. Mustafa Al-Saleh, Eng. Nedaa Al-Rubai, and Mr. Alaa Mayas. The center provided technical assistance to the students from Nahawand School participating in the Intel Science Competition, aiding them with the implementation of their projects. These projects included a hazard detection alarm and a device designed to determine water levels in water tanks. Through such initiatives, the center aims to empower students and educators alike to engage in innovative endeavors for the betterment of their community.	Students	8	https://2u.pw/xv62d0am
5.	Training workshop entitled (Introduction to Arduino).	On Wednesday, March 1, 2023, the Excellence Center for Innovative Projects organized an Introduction to Arduino training workshop aimed at supporting entrepreneurial ideas in the technical field with a focus on sustainability and the environment. The workshop discussed programming mechanisms to link controllers with infrared (IR) transmitters and receivers, enabling the control of electronic elements in environmentally friendly solutions. Additionally, participants learned about programming LCD screens to display sensor readings or produce dedicated writings related to sustainability efforts. It's worth noting that this workshop is part of a series of	Students	12	https://2u.pw/IOJEb0NI

		nine meetings held over two months, concluding on March 13, 2023. The session was presented by Malik Salama, a student from the computer engineering department, providing attendees with essential skills to innovate in sustainability-driven projects.			
6.	Fourth summer camp 2023	In alignment with the university's commitment to societal advancement and the promotion of leadership and innovation across diverse fields of knowledge, the fourth summer camp commenced at the Center of Excellence for Innovative Projects from July 16, 2023, to August 31, 2023. The camp aims to fulfill several objectives, including the support of educational and training endeavors, the exploration of talents and creative potentials to foster outstanding performance at the national level, and the dissemination of a culture centered on innovation, creativity, leadership, and excellence. Targeting school students aged 5 to 16, specifically children of workers, the camp offers a variety of training workshops tailored to meet its goals and objectives. These workshops encompass freehand drawing sessions, public speaking courses, robotics workshops, and modules focusing on sustainable practices, such as the utilization of six simple machines in daily life and the modeling of 3D air planes. By incorporating elements of sustainability and environmental awareness into its curriculum, the summer camp contributes to the long-term goals and aspirations of the Center, providing participants and their families with valuable skills and knowledge to thrive in an ever-evolving world.	Students	5 weeks	https://2u.pw/GIoSZuC
7.	Workshop entitled "Ready Doctor One"	On Wednesday, August 23, 2023, the Excellence Center for Innovative Projects hosted a training workshop titled "Ready Doctor One," supervised	Students	6	https://2u.pw/bS0hyZC

		by the Anatomy Department of the College of Medicine at the University of Science and Technology. The workshop, attended by faculty members from the Anatomy Department and the College of Medicine, was conducted in collaboration with Petra Drug Store, Jusoor Lab, and 3D Organon. With the aim of harnessing virtual world technology to enhance medical education, particularly in areas such as anatomy, surgical techniques, clinical care simulation, and radiological image interpretation, the workshop targeted medical students across different academic years. Zuhdi Mohammad Badwan, a student specializing in Medicine and Surgery, served as the workshop presenter, imparting essential skills in utilizing virtual world technology for anatomical studies. Such initiatives not only bolster the practical aspects of medical education but also refine training skills, nurturing the creative potential of students. By integrating modern technologies into medical training, these workshops contribute to the sustainability and advancement of medical education, fostering a more innovative and efficient learning environment.			
8.	Workshop EV3 Mindstorms Robotics	On Wednesday, March 15, 2023, the Center of Excellence for Innovative Projects hosted the first day of the EV3 Mindstorms Robotics workshop, led by Thuraya Hazem Al-Khalidi, a student from the College of Engineering's Department of Civil Engineering. This workshop, conducted in collaboration with the Institute of Electrical and Electronics Engineers (IEEE) RAS, is part of a two-day event aimed at introducing participants to robotics technology. By integrating robotics into various fields, including sustainability and environmental conservation, the workshop seeks to foster innovation and practical applications in addressing	Students	12	https://2u.pw/P6H0vxkO

		contemporary challenges. Through hands-on activities and collaborative learning, participants are equipped with the skills and knowledge to leverage robotics technology for sustainable solutions.			
9.	Training Course on Water Conflicts and Cooperation.	This two-week course discusses conflicts and cooperation over shared water resources both internationally and nationally. It reflects on processes of water diplomacy and its role in conflict transformation, including lessons from case-studies from the region and beyond. The course provides a broad introduction to water conflict analysis, theories of water conflict and cooperation, as well as overlooked issues interlinked to complex economic, political and diplomatic dynamics. The course will present a theoretical background combined with lessons learned from real examples on water conflict and cooperation, as well as active-learning and dialogue-driven activities through break-out sessions and 'serious' gaming.	Staff and students	2 weeks	https://www.just.edu.jo/Centers/wdc/Lists/CenterEvents/DispForm.aspx?ID=1
10.	Workshop on Managed Aquifer Recharge & Riverbank Filtration.	The Water Diplomacy Center (WDC) at Jordan University of Science and Technology (JUST) successfully hosted two-day Project-Workshop of the MEWAC-FEMAR on "Managed Aquifer Recharge & Riverbank Filtration" in collaboration with the Institute of Groundwater Management at Technische Universität Dresden, Division of Water Sciences at the University of Applied Sciences Dresden, and the consultant Umweltbüro Vogtland (UBV) from Germany. This event was made possible through funding from the German Federal Ministry of Education and Research within the Middle East Water Research Cooperation program. The workshop included lectures and discussions led by field experts from Germany and Jordan, providing valuable insights and knowledge to the	Staff and students	2 days	https://www.just.edu.jo/NewsCenter/Lists/JustNews/DisplayItem.aspx?ID=1943

		participants. Notably, 30 graduate students from Jordanian universities, representing eight different nationalities including Spain, Germany, Guatemala, India, Mixco, Malaysia, Romania, Yemen, and Jordan, registered for the course. These graduate students have diverse scientific backgrounds, encompassing fields such as Civil Engineering, Environmental and Renewable Energy Engineering, Hydrogeology, and Geology. The proceedings commenced with a warm welcome from Prof. Ahmad Al-Ajlouni, Vice President of JUST, followed by a presentation by Dr. Majed Abu-Zreig on the Challenges of Water Resources in Jordan and the need for Aquifer Recharge. Dr. Ziad Al Ghazzawi from JUST delivered an insightful talk on Riverbank Infiltration Experiments in Jordan. An in-depth discussion led by Dr. Cornelius Sandhu from HTW Dresden covered the Introduction to Managed Aquifer Recharge (MAR) and Riverbank Filtration (RBF), along with an investigation of clogging. Subsequently, Dr. Carsten Leibenath from UBV Vogtland discussed the Design of Technical Elements for MAR and RBF, and Dr. Thomas Reimann from TU Dresden provided an Introduction and Overview of Numerical Modeling for MAR schemes. The workshop allows a diverse and dynamic group of participants ensured a stimulating environment for discussion learning and networking. At the conclusion of the workshop, Prof. Majed Abu-Zreig awarded certificates of appreciation to the workshop instructors, and certificates of attendance were distributed to all students who attended the workshop			