

**Scope of work**

The Jubilee Center for Excellence in Education (JCEE) works to build the capacity of the community and improve lives by raising the level of education, instilling initiatives, creativity and excellence among school and university students, teachers, administrators, supervisors, and graduates seeking jobs. The JCEE works through its local, regional, and international partnerships by implementing many specialized selected training programs related to the field of excellence in education which includes (talent, creativity, science, technology, engineering, arts, mathematics )STEAM(, robotics, artificial intelligence, e-learning, and career guidance), in accordance with the best international practices and in line with the needs of learners and global trends aimed at focusing on creativity, innovation, leadership, and excellence to ensure the improvement of the quality of education and its outcomes.

1. ***Talent and creativity***

The center offers qualitative courses related to the topics of revealing talented and creative students and providing them with appropriate programs to meet their needs and develop their capabilities. Moreover, it works on building the capacities of teachers and supervisors and qualifying them to deal with gifted and talented students through an international diploma program accredited by the *International Center for Innovation in Education (ICIE)*. The programme presents a bundle of special training courses includes the following:

1. Introduction to Excellence and Gifted Education
2. Screening and Identification: Who is Potentially Gifted?
3. Evaluation of Potential Creativity (EPoC)
4. Problem Based Learning/Inquiry Based Learning
5. Skillful Teaching for Productive Thinking
6. Mentorship, Leadership, and Entrepreneurship
7. Counselling and Guidance for the Gifted
8. ADHD and Twice Exceptional
9. How to Build Gifted Programmes and Innovation Incubators
10. Organizational Creativity: Quality Standards, Indicators, and Assurance
11. Talent Management
12. Design Thinking & 21st century skills
13. ***STEAM Education***

The STEM approach to education fosters creativity and divergent thinking alongside fundamental disciplines. It motivates and inspires young people to generate new technologies and ideas. With a focus on practice and innovation, students get to learn from inquiry-based assignments. STEM education gives an understanding of concepts and encourages knowledge application.

STEAM at JCEE is a comprehensive program with international standards for teachers and students with the aim of raising their efficiency and building their capabilities in the fields of science, technology, engineering, arts and mathematics (STEAM), through a set of courses that have been carefully designed to empower teachers and provide them with the necessary skills to manage the educational process according to the STEM approach, which leads to the development of students' capabilities and reflects positively on students' academic performance, in addition to developing the skills of the twenty-first century, which include the following:

1. STEAM Specialist (ToT)
2. STEAM Teacher (ToT)
3. STEAM Skills
4. Design & Technology (CAD/CAM/CNC)
5. Great Exploration in Math and Science (GEMS)
6. GEMS Associate Workshop (ToT)
7. ***Robot and artificial intelligence***

The JCEE has been working to build the capacities of teachers, engineers, and university students for 15 years by spreading the culture of robots and artificial intelligence through the training programs it provides to equip participants with the necessary technical skills in terms of programming, designing and algorithms. The center provides practical training programs that include the following:

1. Robotics in Education
2. Educational Robotics Trainer (TOT)
3. Advanced Robotics (VEX)
4. Chartered Artificial Indigence Professional
5. Artificial intelligence to qualify university graduates
6. Artificial intelligence for teachers
7. Internet of things (IoT)
8. Smart Phones Applications
9. Virtual Reality Lab in Education
10. Smart Electronics
11. ***Career counseling***

Through the career counseling unit, JCEE provides professional guidance and one-to-one tailored and need-driven comprehensive capacity building to school and university students, in addition to providing a specialized training program for career counselors with the aim of raising their efficiency and building their capabilities. Training courses presented in this field are:

* Certified Job Guide Course
* Vocational Counseling Sessions
* Awareness programme in the areas of future jobs
* 21st century skills for today’s students.

To enhance the program outcomes, the Center has worked on the development and issuance of a manual and a specialized training kit in the field of career guidance, which includes:

* The main training guideline
* Support manual for career counselors
* A comprehensive guide to establishing the career counselling services unit
* Career counselling program for schools
1. ***E-Learning***

JCEE developed and created a diploma programme specialized in the field of e-learning under the name of "e-learning and its applications” in cooperation with the Center for Consultation and Training at the University of Jordan and accredited by the Ministry of Higher Education. The center has also developed a specialized training guide for teachers in the field of e-learning. The diploma includes the following main modules:

1. Fundamentals of E-learning (50 training hours)
2. E-learning pedagogy (75 training hours)
3. Teaching design (50 training hours)
4. E-learning applications (100 training hours)
5. Graduation Project (25 training hours)

***6- Students with special needs***

The JCEE designed and developed a specialized and qualitative program for students with special needs blind and visual impairment with the aim of raising the efficiency of their teachers and qualifying them to deal with this group of students. The programme is the first of its kind, which covers aspects of applied science and STEM approach and includes the following courses:

1. Introduction to STEAM
2. Designing and programming of robots
3. C-language programming
4. Fun Science

***7- Tailored programmes for*** ***refugees and less fortunate students in poverty areas***

 JCEE has developed a set of quality training courses to empower refugees and less fortunate students in poverty areas based on project-learning, to provide them with teamwork, problem-solving, and critical thinking skills that fulfil their academic needs and equip them with life skills. The training programme contributed to enabling refugee students to receive a quality education and real learning opportunities. The programme includes the following:

1. Science and Technology
2. Robot and smartphone applications
3. Fun science
4. Career counseling
5. Virtual Reality
6. Psychosocial counseling

**8- Curricula, manuals, and innovative training kits**

Developing and issuing curriculum, manuals, and training kits in the fields of (talent and creativity, STEAM, robotics and artificial intelligence, career guidance, e-learning programs) is part of JCEE scope of work that leads to unique learning experiences and results in significantly and substantially better learning outcomes.

It aims to provide innovative scientific material that serves teachers, students, and trainers to facilitate the process of understanding scientific topics. Moreover, it helps teachers to be directed towards innovative education and enable them to provide scientific materials to students in an appropriate manner. Among the most prominent manuals developed by the center are the following:

**Training manuals**

* Introduction to STEM Education
* Mobile Applications in Education
* Introduction to Robotics
* Artificial Intelligence
* Robotics Programming
* STEAM Tools
* Arduino Programming
* Introduction to Smart Electronics
* Programming with C-Language
* Introduction to Productive Thinking
* Skillful Teaching
* Design Thinking
* Creativity & Innovation
* Project-Based Learning
* How to Become an Inventor?

**Innovative Educational Kits**

The JCEE works on developing practical training kits that reflect the STEAM integrative approach in education. It includes materials and tools that help teachers, trainers, and students understand the scientific content and enable them to directly apply the concepts they learned practically, as the kits are designed as project-based learning through which students can implement several practical projects, and integrate learning with practical life, making it easier for them to understand the rules and scientific theories. The following are a set of educational kits that were developed:

1. Life Science Kit
2. Green Science Kit
3. Smart Girls STEAM kit
4. Arduino Robotics Kit
5. Fun Science Kit
6. How Do I become an inventor kit?
7. Virtual STEAM Kit
8. STEAM for the blind
9. Education Robotics Kit
10. Innovation Kit (Level 1)
11. Artificial Intelligence Kit

***9- Activities, competitions, and conferences***

The center has worked during the past two decades to innovate and develop a set of scientific competitions aimed at encouraging creativity and innovation in accordance with the best international practices and accreditation. The competitions are presented to students from different regions and areas in Jordan with the aim of raising their efficiency, developing their abilities and skills, and providing a creative and exciting environment for students to enable them to refine their skills and highlight their potentials, which is reflected positively in such challenges:

1. FIRST LEGO League Robot Competition for students aged (6-16 years) accredited by the FIRST organization.
2. Design and Technology Competition for Students aged (12-18 years) accredited by DENFORD Foundation.
3. National Robot Competition for students aged (10-25 years) and approved by the Arab Society of Robotics and Artificial Intelligence.
4. Steam Education Competition for teachers: Aims to encourage teachers to develop innovative and STEAM-oriented models for creative classrooms.
5. The Annual Conference of Excellence in Education: is a training conference aimed at providing the opportunity for people of concern interested in the fields of excellence and creativity in education.
6. Outreach programs: the center works to provide awareness programs and guidance to teachers, students, and parents through a monthly remote programme of lectures, seminars, and workshops for all educators and people of interest in the field of education.

***10. Innovative educational initiatives***

 Launching innovative initiatives aimed at investing in modern technology and providing it to schools in easy and practical ways so that teachers can benefit from these technologies and laboratories in the educational process. Most prominent initiatives launched by the Center at the level of the Kingdom:

1. **Educational Robot Initiative**: Launched in 2004 aimed at spreading the culture and science of robotics in schools and among students and teachers, an integrated program was designed that includes laboratories, teacher preparation courses in the field of educational robotics, competitions, activities, and events. Benefited from this initiative more than 50,000 students and teachers to date.
2. **Technology Design in Education Initiative**: Launched in 2008 and aimed to build the capacity of students in the fields of technology based on manufacturing using CAD-CAM-CNC technology, where this technology was introduced in the field of education and training teachers and students on how to turn their ideas into products through computer numerical control devices and 3D printer. Benefited from this initiative to date 5000 students and teachers.
3. **STEAM Approach in Education Initiative**: This global orientation was adopted by the JCEE in 2011 and has developed many curricula, plans, training courses, competitions and training kits that encourage teachers and students to benefit and build their abilities in accordance with the best international practices. Benefited from this initiative 12,000 teachers and more than 30,000 students.
4. **Virtual Reality Lab Initiative in Education**: In line with global trends and with the aim of introducing the educational community to the best technologies and modern methods in education, the Center launched the Virtual Reality Lab Initiative in Education in 2021.
5. **King Hussein Science Garden Initiative**: The science garden was opened in 2002 to provide an attractive and enjoyable educational environment for students by providing 40 external scientific applications (Outdoor). The garden was visited by more than 70,000 students and teachers from different regions of the Kingdom.

**11. Tests and diagnostics**

Through the Tests and evaluation Unit, test sessions related to the detection of gifted and creative students are conducted throughout the year, in addition to providing the service of measuring individual and collective intelligence for students. more than 30,000 detection tests have been conducted since the beginning of its provision of services in 1998. The center relies on a group of international tests, to apply them to students, and train those interested and specialists in the field of intelligence and creativity tests, detect talented students and builds their capabilities in such areas. The main services provided by the center in this field are the following:

1. Implementing intelligence and creativity tests individually and collectively for school recruits referred by parents and other schools.
2. Establishing programs for talented and outstanding students.
3. Assisting in structuring individual plans commensurate with each student potential and capabilities in accordance with the test results

**The center holds the following tests:**

- Scholastic Aptitude Test

- Evaluation of Potential Creativity “EPoC”

- (SB-5) Stanford-Binet Intelligence Scales, fifth edition

- Wechsler Adult Intelligence Scale, fourth edition

- Wechsler Intelligence Scale for Children, fourth edition