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|  | **program Information** |
| **Program Type** | Degree Based …………….....Non degree-Based ……..…. | ◼■ |
| **Level of Study** | Undergraduate ………..……Master …………………..……...PhD ………………………..…….Post Doc …………………..…..Specialty ………………..…….Subspecialty …………………Fellowship ……………..……..Short term Course ■ | ■■■□□□ |
| **School** | School of Medicine |
| **Department** | Department of Medical Biotechnology |
| **Major/ Name of Program** | Molecular biology in Modern Medicine: - Molecular Biotechnology  - Nanomedicine Technology - Stem cells Biology - RNAi Technology |
| **Keyword(3 Words)** | Biotechnology; Molecular biology; Modern Medicine; Nanomedicine  |
| **Language Requirement** | Proficiency in English language |
| **Admission Requirement** | Valid certificate of studentship and/or working experience in biology related field and/or laboratory |
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| Contact Person Name : Dr. Reza Kazemi Oskuee, Dr. Khadijeh Jamialahmadi |
| **Description (500 words)** | The aim of this training course is to convey a well-founded and wide-ranging basis of knowledge for developing, implementing, and evaluating Molecular Biotechnology, Stem Cells Biology, RNAi Technology and Nano Biotechnological methods. The program concentrates on biological processes, technologies and skill sets used in the research and development of molecular diagnosis of different disease with a particular focus on cancer and therapeutic products that can be applied on molecular targets. The training course entails theory and practical sessions entailing the rationale, application, and procedure of techniques that are commonly used in Molecular Biotechnology, Stem Cells Biology, RNAi Technology, and Nano Medicine. In this way, the course graduates should find themselves in a position where they are able to assess the manifold interrelationships and effects of these new techniques. On this basis, they will have the ability to elaborate useful applications for their own institutions. |
| **Complete Description** | The course is of 7-10 Days duration and will consist of theory and practical tasks with hands on experience in DNA/RNA based techniques such as DNA/RNA extraction and quantification, PCR, RT-PCR, Real-time PCR, gel electrophoresis, restriction fragment length polymorphism, microRNA extraction and quantification, advanced cloning strategies vital to mammalian cell line development for protein production, Protein Expression Technologies, gene delivery using non-viral vectors, stem cell isolation and culture, and Nano Biotechnology. Application of the techniques in diagnosis and treatment of pathogenic diseases will be discussed.  |
| **Program Detail** | The course is suitable for young scientists, clinicians, academics, technical officers, lab technicians, students awaiting higher studies in biological sciences and individuals who are interested in pursuing molecular techniques in their scientific fields.  |