

**Dairy Science Park, proposed courses on Biorisk Management at Balochistan University of IT,
Engineering and Management Sciences, Quetta**

Course: Bioethics & Biosafety
Class: BS Biotechnology 6th semester
Credit hours: (3= 2+1)

- Bioethics (History & Applications)
- Theories of Bioethics
- Ethics of Resource Management (Priority setting & Resource allocation)
- Ethical Guidelines and reports
- Plagiarism & Misconduct in Science
- Social values in Science & Research
- Conflict of Interest
- Ethical issues in Research
- Start & End of life ethical issues
- Ethical issues in human cloning
- Ethical issues in Stem cell research
- IVF technology, Genetic testing, Abortion, Foetal sex determination & ethical issues
- Chimera technology & ethical issues
- Animal Rights/Animal Ethics (History, use, misuse, and ethical issues)
- Organ donation/Organ transplantation (History, types & ethical issues)
- Human genome project & ethical issues
- The Need for Ethical Review Committee
- Hazardous Materials Used in Biotechnology
- Biological Risk assessment & Risks versus Benefits
- Risk management (Preventions, Surveillance & Monitoring)
- Biosafety Regulations & Principles of Biosafety (National & International guidelines)
- Laboratory Animal Management
- Laboratory Biosafety Level Criteria (Level 1, Level 2, Level 3 and Level 4)
- Biohazardous Waste (Handling, Treatment & Disposal)
- Concepts of Environmental Biosafety

Recommended Books:

- Beauchamp T, Childress J. Principles of biomedical ethics, 5th edition. New York:

Oxford University Press, 2001.

- V. Sree Krishna. Bioethics and biosafety in Biotechnology. New age international Publishers: Bangalore, India.
- Laboratory Biosafety Manual. 3rd edition. World health organization (WHO), Geneva 2004.
- Laboratory Biosafety guidelines. 3rd edition 2004. Health Canada Publishers, Canada.

Lab:

- Practice of Hazardous waste handling, packaging
- Understanding of Laboratory safety procedures and techniques
- Practice and understanding of Personal protection
- Understanding of chemicals storage & compatibility