

Graduate attributes and intended learning outcomes

College of Science graduate attributes (in alignment with programs in the college):

After successfully completing a program in one of the College of Science disciplines, graduates are expected to:

1. Be familiar with the fundamental and applied principles and concepts of science and connect them effectively
2. Use core knowledge and concepts to solve problems in the discipline and in other related scopes.
3. Design and execute lab experiments in various science fields with in-depth knowledge and experience of advanced laboratory devices and techniques
4. Work competently, individually or in groups, committed to the ethics of scientific research, possessing self-marketing capability, communication skills and propose appropriate ideas to solve related problems
5. Use computer and its up-to-date software to analyze and process data and interpret results efficiently
6. Formulate scientific and professional reports in the discipline competently.
7. Use multiple communication skills to transfer and convey knowledge effectively
8. Utilize the modern library as a research tool for all scientific references related to the discipline.

Intended learning outcomes:

A. in-depth Knowledge and understanding:

A1- Competently review sci-tech concepts and theories and their applications in range of pure/ applied sciences and related sciences, linking theory to application.

A2- Describe various natural phenomena based on various scientific concepts

A3- be familiar with various scientific information and knowledge and identify scientific terms

A4- Express in-depth knowledge of the principles and theories of science (according to the discipline)

B. intellectual skills:

B1- Design appropriate models in computer systems to solve / or design and analyze various practical experiments or problems and the results (according to the discipline)

B2- connect various concepts of basic and applied sciences and other sciences

B3- evaluate the results of laboratory and field experiments (according to the discipline), comparing them with the theoretically expected results

B4- Apply qualitative and quantitative thinking to solve scientific problems

B5- Use creative and critical thinking skills to carry out experiments and research , solve the confronting problems and interpret phenomena in the milieu

C. Professional and practical skills:

C1- Scientifically utilize and apply experiments (According to the discipline) , pursuing the principles, facts and concepts of security and safety , analyzing results and interpreting them scientifically

C2- efficiently use software and computers in various fields of science (according to the discipline)

C3- employ acquired skills and scientific knowledge in solving related problems empirically and practically in a way that serves society and protects the environment

C4- apply knowledge in computing, devices and techniques to improve work productivity

C5- select appropriate techniques to organize and analyze laboratory results (according to the discipline) for preparing and submitting reports and research papers

D. General or transitional skills:

D1- efficiently practice ongoing learning skills, time management, and laboratory and professional reports preparation.

D2- communicate effectively within a team or as a team leader to solve problems and issues raised

D3- Practice reading and understanding literature from different sources

D4- Use safety procedures in laboratories (according to the discipline) and adhere to professional science ethics.

D5- master communication skills via proper scientific platforms to convey his scientific ideas and information to others in a safe manner that preserves intellectual property rights

D6- manage self-learning through investigation and searching for the required information from databases using various computer programs or through effective communication