

Examples of Learning Outcomes Specified by Science Programmes:

Desired learning outcomes for xxx graduates

This is a specification of the key learning outcomes – knowledge, skills, values and attitude – needed by graduates of the xxx undergraduate programme.

(Note: Programmes usually articulate 3 to 6 outcomes under each category)

1. Knowledge Outcomes (Content)

Graduates should possess fundamental/core/inter-disciplinary knowledge of xxx, including the followings:

- (1) *Biochemistry*: A broadly-based core covering biomolecules, molecular biology, cellular biochemistry, metabolism, bioinformatics, protein and enzyme.
- (2) *Biology*: A broadly-based core covering cell biology, genetics, ecology and biochemistry.
- (3) *Chemistry*: Basic principles and methodologies of chemical safety.
- (4) *Food and Nutritional Science*: Knowledge of how theory can be applied to practical situations in the food and nutritional sciences.
- (5) *Physics*: Mathematical methods for physics.
- (6) *Risk Management Science*: Background knowledge of economics for business studies.
- (7) *Statistics*: Ability to identify and criticise the misuse of statistics.

2. Skills Outcomes

Generic Competencies/Transferable Skills

Graduates should acquire transferable generic skills, including:

- (1) *Biochemistry*: Leadership with proactive and responsible attitude.
- (2) *Biology*: Ability to work independently and also work in teams.
- (3) *Chemistry*: Information retrieval skills through library and internet.
- (4) *Environmental Science*: Ability to perform quantitative analyses with basic statistics, data processing and computer skills.
- (5) *Molecular Biotechnology*: The ability to critically analyse information to challenge a conclusion or currently accepted views.
- (6) *Risk Management Science*: Sufficient emotional quotient.

Professional Skills

Graduates should have a good mastery of the following professional skills:

- (1) *Biochemistry*: The ability to write brief research proposals for the testing of hypothesis.
- (2) *Chemistry*: Competence in drawing chemical structure by using computer softwares.
- (3) *Environmental Science*: Ability to identify current environmental problems and propose appropriate solutions
- (4) *Molecular Biotechnology*: The ability to perform a science-based assessment of possible risks resulting from the applications of biotechnology.
- (5) *Physics*: Use mathematics, including mathematical modelling and computation skills, to describe the physical world.
- (6) *Statistics*: Ability to communicate and convey the results of the analysis to layman.
- (7) *Chinese Medicine*: Ability to manage a Chinese medicine clinic as a successful business.

3. Attitude/Value Outcomes

Graduates should have a positive attitude towards issues concerning xxx, including the followings:

- (1) *Biochemistry*: Proposing new thoughts or idea from data or information obtained with a critical and logical mind-set.
- (2) *Biology*: Awareness of the latest developments and advancements in biology.
- (3) *Chemistry*: Curiosity and interest in making scientific investigation.
- (4) *Environmental Science*: Passion for transferring the sense of environmental protection to the general public.
- (5) *Molecular Biotechnology*: An awareness of the possible society, economical, and environmental impacts of modern biotechnology.
- (6) *Physics*: Willingness to take responsibility and have confidence to try.
- (7) *Risk Management Science*: Be open-minded towards different approaches for problem solving.
- (8) *Statistics*: Avoidance of the abuse of statistics.
- (9) *Chinese Medicine*: Recognizing a need for further personal and professional development.