Program Learning Outcome Mapping Matrix

Identify on the table below the courses that are required to teach the program learning outcomes. Insert the program learning outcomes, according to the level of instruction, from the above table below and indicate the courses and levels that are required to teach each one; use your program's course numbers across the top and the following level scale. Levels: I = Introduction P = Proficient A = Advanced

Faculty: Faculty of Applied Science (04) Department: Department of Biology (401)

Program: BSc Biology (40100)

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	Course Offerings NQF Learning Domains and Learning Outcomes	4011011	4012211	4012311	4012041	4012061	4012072	4012232	4012322	4012242	4012252	4013331	4013261	4013281
1.0	Knowledge													
1.1	To know the ethics of biology and related areas of science	✓	✓	>	✓	\	✓	✓	✓	✓	>	\	✓	✓
1.2	To design methods for analyzing and solving problems in the field of biology and its applications	X	✓	✓	✓	✓	✓	✓	✓	✓	√	✓	✓	✓
1.3	To think critically in evaluating biological information	√	✓	√	√	✓	✓	✓	√	✓	√	✓	✓	✓
1.4	To implement projects related to his study in biology program.	X	X	X	X	X	X	X	X	X	X	✓	✓	✓
2.0	Cognitive Skills													
2.1	To understand the importance of scientific research and look at the recent advances in biological sciences	X	✓	✓	✓	√	✓	√	✓	✓	✓	√	✓	✓
2.2	To prepare, explore, identify, analyze and evaluate various scientific problems and solutions.	✓	✓	√	✓	✓	✓	✓	√	✓	✓	√	✓	✓
2.3	To compare and contrast the methods of scientific research and the ability to design and evaluation of scientific research	✓	✓	✓	√	√	√	√	√	√	✓	√	✓	✓
3.0	Interpersonal Skills & Responsibility													
3.1	To involve working independently and with multi- disciplinary teams.	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	√	✓	✓
3.2	To cooperate in providing scientific and technical services in various fields for all sectors	✓	✓	✓	√	X	√	√	√	√	✓	√	✓	✓
4.0	Communication, Information Technology, Numerical													
4.1	To use the computer to prepare written reports, evaluate scientific data and calculations	✓	√	✓	√	✓	√	√	√	√	✓	✓	✓	✓
4.2	To use the internet to conduct search for published articles and books	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.0	Psychomotor													
5.1	To perform basic and advanced biological laboratory techniques	✓	✓	✓	X	✓	✓	✓	✓	√	✓	✓	✓	✓
5.2	To be able to operate laboratory instruments	√	✓	√	X	✓	✓	✓	✓	✓	✓	√	✓	✓

	Course Offerings													
	NQF Learning Domains	4013291	4013352	4013362	4013342	4013272	4013402	4013082	4014311	4014321	4014331	4014411	4014091	4014342
	and Learning Outcomes	291	352	362	342	272	402	082	311	321	331	411	091	342
1.0	Knowledge													
1.1	To know the ethics of biology and related areas of science	√	√	✓	✓	✓	✓	✓	✓	✓	√	✓	✓	✓
1.2	To design methods for analyzing and solving problems in the field of biology and its applications	✓												
1.3	To think critically in evaluating biological information	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	√	✓	✓
1.4	To implement projects related to his study in biology program.	✓												
2.0	Cognitive Skills													
2.1	To understand the importance of scientific research and look at the recent advances in biological sciences	✓	✓	✓	√	√	√	√	√	√	✓	√	✓	✓
2.2	To prepare, explore, identify, analyze and evaluate various scientific problems and solutions.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.3	To compare and contrast the methods of scientific research and the ability to design and evaluation of scientific research	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	√	✓	✓
3.0	Interpersonal Skills & Responsibility													
3.1	To involve working independently and with multi- disciplinary teams.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	√	✓	X
3.2	To cooperate in providing scientific and technical services in various fields for all sectors	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
4.0	Communication, Information Technology, Numerical													
4.1	To use the computer to prepare written reports, evaluate scientific data and calculations	√	√	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4.2	To use the internet to conduct search for published articles and books	✓	√	✓	✓	✓	✓	✓	√	✓	✓	√	✓	✓
5.0	Psychomotor													
5.1	To perform basic and advanced biological laboratory techniques	√	√	√	√	✓	√	✓	✓	√	✓	✓	✓	X
5.2	To be able to operate laboratory instruments	✓	√	√	✓	✓	✓	✓	✓	✓	✓	✓	✓	X

	Course Offerings	4	4	4	4	4				
	NQF Learning Domains and Learning Outcomes	4014352	4014212	4014112	4014362	4014923				
1.0	Knowledge									
1.1	To know the ethics of biology and related areas of science	✓	\	\	>	✓				
1.2	To design methods for analyzing and solving problems in the field of biology and its applications	✓	✓	√	✓	✓				
1.3	To think critically in evaluating biological information	✓	√	√	√	✓				
1.4	To implement projects related to his study in biology program.	✓	\	→	>	✓				
2.0	Cognitive Skills									
2.1	To understand the importance of scientific research and look at the recent advances in biological sciences	✓	√	✓	√	✓				
2.2	To prepare, explore, identify, analyze and evaluate various scientific problems and solutions.	✓	√	√	√	√				
2.3	To compare and contrast the methods of scientific research and the ability to design and evaluation of scientific research	√	√	√	√	√				
3.0	Interpersonal Skills & Responsibility									
3.1	To involve working independently and with multi- disciplinary teams.	✓	✓	✓	√	✓				
3.2	To cooperate in providing scientific and technical services in various fields for all sectors	✓	✓	✓	√	✓				
4.0	Communication, Information									
	Technology, Numerical									
4.1	To use the computer to prepare written reports, evaluate scientific data and calculations	✓	✓	✓	>	✓				
4.2	To use the internet to conduct search for published articles and books	✓	√	√	√	√				
5.0	Psychomotor									
5.1	To perform basic and advanced biological laboratory techniques	✓	✓	✓	✓	✓				
5.2	To be able to operate laboratory instruments	✓	√	✓	√	✓				