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## PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Programme Objectives are specific goals consistent with the mission and vision of the IHL, contains the 9 MOHE attributes, responsive to the expressed interest of programme stakeholders and describing the expected achievements of graduates in their career and professional life few years after graduation.

Generic Program Educational Objectives (PEOs are employability attributes and selling points of your program) for **FSG Pre-Diploma Science Programs**. These objectives are NOT directly measurable but serve as an aim of what graduates will be many years after graduation. The sentences begin with:

Three to five years upon successful completion of the program, our bumiputra graduates will be:

1. Higher education students who deepens their knowledge and understanding of science concepts, laws, principles and laboratory experiences in their field of study.
2. Higher education students who collaborate in teams and enhance leadership roles in learning by utilizing proficient verbal and writing abilities to solve problems in their field of study.
3. Higher education students who enhance their self-learning abilities and their proficiency of using the internet and information communication technology to explore new ways of learning in their field of study.
4. Higher education students who practice academic integrity and moral values in completing their academic and college learning tasks.

Generic Program Educational Objectives (PEOs are employability attributes and selling points of your program) for **FSG Diploma Programs**. These objectives are NOT directly measurable but serve as an aim of what graduates will be many years after graduation. The sentences begin with:

Three to five years upon successful completion of the program, our bumiputra graduates will be:

1. semiprofessionals in applied sciences who analyze and apply the knowledge, understanding and laboratory experiences to provide quality products and services to the government agencies and science-related industries.
2. semiprofessionals in applied sciences who lead and engage in teams in problem solving tasks across disciplines through effective communicative abilities .
3. semiprofessionals in applied sciences who utilize ICT to advance their knowledge and skills and to explore business opportunities in the science-related industry.
4. semiprofessionals in applied sciences who practice ethical and professional values in providing services to the recipients and provider of the science-related industry.



Generic Program Educational Objectives (PEOs are employability attributes and selling points of your program) for **FSG Degree Programs**. These objectives are NOT directly measurable but serve as an aim of what graduates will be many years after graduation. The sentences begin with:

Three to five years upon successful completion of the program, our bumiputra graduates will be:

1. scientists or science practitioners who synthesize and apply the knowledge, understanding and laboratory experiences to provide quality products and services to the government agencies and science-related industries locally and globally.
2. scientists or science practitioners who lead and engage in teams in problem solving tasks across disciplines through effective communicative abilities
3. scientists or science practitioners who utilize ICT to advance their knowledge and skills and to explore business opportunities in the science-related industry locally and globally.
4. scientists or science practitioners who adheres to ethical and professional values in providing services to the recipients and provider of the science-related industry locally and globally.

Generic Program Educational Objectives (PEOs are employability attributes and selling points of your program) for **FSG Masters Programs**. These objectives are NOT directly measurable but serve as an aim of what graduates will be many years after graduation. The sentences begin with:

Three to five years upon successful completion of the program, our bumiputra graduates will be:

1. scientists or science practitioners who make judgment by applying the knowledge, understanding and laboratory experiences to provide quality research, and services to the government agencies, education sectors, research organizations and science-related industries locally and globally.
2. proficient scientists or science practitioners who lead and engage in research teams to explore solutions to problems and contributes new knowledge within and across disciplines through effective communicative abilities
3. capable scientists or science practitioners who continue to advance their knowledge, understanding and abilities by utilizing ICT to create business opportunities for the education sectors, research organizations and science-related industries locally and globally
4. scientists or science practitioners who are motivated and motivate others to practice ethical and professional values in providing services to the recipients and providers of the education sectors and research organizations in the science-related industry locally and globally.



## PROGRAM LEARNING OUTCOMES (PLOs)

Generic Program Learning Outcomes (PLOs are what graduates will know and be able to do) for **FSG Pre-Diploma Science Programs**. These are outcomes which describe what graduates are able to do and know right after they graduate. It can be directly measured but are usually indirectly measured through achievement of outcomes at the lesson and course level. The sentences begin with:

Upon successful completion of the program, our bumiputra graduates will be able to:

1. Construct and acquire introductory and intermediate knowledge of science and mathematics at the Diploma level.
  2. Plan and safely conduct simple scientific investigations, organize and transform raw data into tables and graphs and propose appropriate mathematical models from the evidence of the investigations.
  3. Identify, classify and make clear the outcomes and procedures to solve ill-defined problems given in an introductory undergraduate science-related textbook.
  4. Communicate their ideas and arguments proficiently both verbally and in writing
  5. Demonstrate collaboration with team members across gender and ethnic background while performing and completing academic tasks.
  6. Practice honesty and integrity in performing and completing their academic tasks.
  7. Demonstrate abilities to be independent in completing their academic tasks.
  8. Explore new and efficient strategies to become deep-learners.
- Demonstrate leadership abilities in completing a team-related academic tasks

Generic Program Learning Outcomes (PLOs are what graduates will know and be able to do) for **FSG Diploma Programs**. These are outcomes which describe what graduates are able to do and know right after they graduate. It can be directly measured but are usually indirectly measured through achievement of outcomes at the lesson and course level. The sentences begin with:

Upon successful completion of the program, our bumiputra graduates will be able to:

1. apply and acquire knowledge and understanding of laws, theories and principles of science and mathematics.
2. safely prepare samples and operate a range of machineries and laboratory equipments.
3. conduct experiments, process, interpret and analyze experimental data.
4. apply the scientific reasoning in solving authentic problems.
5. verbally communicate scientific ideas with experts and non-experts .
6. articulate scientific investigations in written form.
7. effectively engage in a multidisciplinary team.
8. apply values, ethics, morality and professionalism in their scientific pursuit.
9. manage information and engage in life-long learning.
10. apply managerial and entrepreneurial skills.
11. demonstrate leadership skills.



Generic Program Learning Outcomes (PLOs are what graduates will know and be able to do) for **FSG Degree Programs**. These are outcomes which describe what graduates are able to do and know right after they graduate. It can be directly measured but are usually indirectly measured through achievement of outcomes at the lesson and course level. The sentences begin with:

Upon successful completion of the program, our bumiputra graduates will be able to:

1. analyze problems by applying and acquiring knowledge and understanding of laws, theories and principles of science and mathematics.
2. safely prepare samples and operate a range of machineries and laboratory equipments.
3. identify problems, design an investigation or experiment, process and interpret the experimental data and critically analyze and defend the conclusion.
4. apply the scientific reasoning in solving authentic problems.
5. verbally argue and communicate scientific ideas with peers, colleagues and the public.
6. articulate scientific ideas and investigations in written form.
7. effectively engage in a multidisciplinary team locally and globally.
8. apply values, ethics, morality and professionalism in their scientific pursuit.
9. manage information and engage in life-long learning.
10. apply managerial and entrepreneurial skills.
11. demonstrate leadership skills.

Generic Program Learning Outcomes (PLOs are what graduates will know and be able to do) for **FSG Masters Programs**. These are outcomes which describe what graduates are able to do and know right after they graduate. It can be directly measured but are usually indirectly measured through achievement of outcomes at the lesson and course level. The sentences begin with:

Upon successful completion of the program, our bumiputra graduates will be able to:

1. synthesize problems by applying knowledge and understanding of laws, theories and principles of science and mathematics.
2. safely prepare samples, operate, use, diagnose and modify laboratory equipments.
3. identify problems, design experiments, analyse and form a justified conclusion from experimental data.
4. apply the scientific reasoning in solving authentic problems.
5. verbally express, argue, justify and articulate scientific ideas effectively.
6. express, argue, justify and articulate scientific ideas in written form.
7. effectively work in a multidisciplinary team.
8. apply values, ethics, morality and professionalism in their scientific pursuit.
9. manage information and engage in life-long learning.
10. apply managerial and entrepreneurial skills.
11. demonstrate leadership skills.