PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

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 deepen 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 continue to advance their knowledge and abilities by utilizing ICT 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 use 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 are motivated to practice 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 use ICT to advance their knowledge, understanding and abilities and 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.
9. 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. Plan, conduct and conclude scientific investigations in their field of study.
4. Apply the scientific reasoning in proposing solutions for authentic problems in their field of study.
5. Verbally communicate scientific ideas with semiprofessionals and non-experts.
6. Articulate scientific investigations in written form with semiprofessionals and non-experts.
7. Effectively engage in a multidisciplinary team.
8. Apply values, ethics, morality and professionalism in their semiprofessional 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 advanced machineries and laboratory instruments.
3. Identify problems, propose research questions and hypothesis, design science investigations and defend the conclusion of investigations.
4. Apply the scientific reasoning and critical thinking in providing solutions to authentic problems in their field of study.
5. Verbally argue and communicate scientific ideas with the learning communities and the public.
6. Articulate scientific ideas and investigations in written form with the learning communities and the public.
7. Effectively engage in a multidisciplinarity team locally.
8. Practice empathy, responsibilities, integrity 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, diagnose and modify a range of advanced machineries and laboratory instruments.
3. Identify problems, propose research questions and hypothesis, design science investigations and critically justify the conclusion of investigations.
4. Apply the scientific reasoning and critical thinking in providing multiple solutions to authentic problems in their field of study.
5. Verbally present, argue, justify and articulate scientific ideas effectively with experts and non-experts.
6. Argue, justify and articulate scientific ideas in written form with experts and non-experts..
7. Effectively engage in a multidisciplinarity team locally and globally.
8. Practice empathy, responsibilities, integrity and professionalism in their research and their scientific pursuit.
9. Manage information and engage in life-long learning.

10. Apply managerial and entrepreneurial skills.
11. Demonstrate leadership skills.