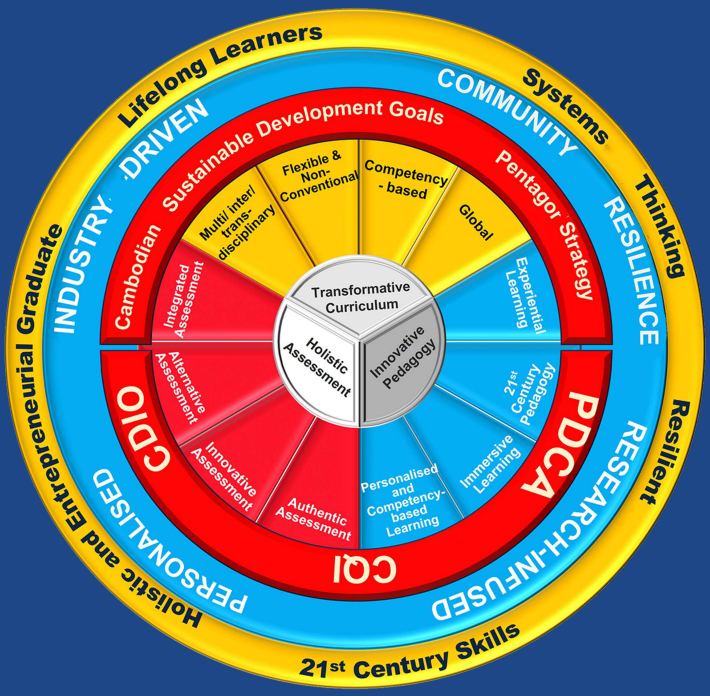
Kingdom of Cambodia
Nation Religion King

Ministry of Education, Youth and Sport

FUTUREFIT EDUCATIONAL FRAMEWORK
for
OUTCOME-BASED EDUCATION
in
CAMBODIAN HIGHER EDUCATION

ក្របខ័ណ្ឌអប់រំអនាគតផល
សម្រាប់ការអប់រំផ្អែកលើលទ្ធផលនៅឧត្តមសិក្សាកម្ពុជា



Directorate General of Higher Education
September 2025

ACKNOWLEDGEMENTS

Producing this ***FutureFit Educational Framework for Outcome-Based Education in Cambodian Higher Education*** is a significant task. With its completion, many people have been instrumental throughout the process. With that, we would like to express our sincere thanks and gratitude to the following individuals.

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Despite the acknowledgements, any shortcoming in this framework is our responsibility. However, the ***FutureFit Educational Framework*** is a living document, and our team looks forward to constructive inputs and feedback from the implementors to further improve it.

DGHE-OBE Team

អារម្ភកថា

បញ្ចកោណទី១ នៃយុទ្ធសាស្ត្របញ្ចកោណដំណាក់កាលទី១ របស់រាជរដ្ឋាភិបាលកម្ពុជា នីតិកាលទីប្រាំពីរ បានផ្តោតលើការអភិវឌ្ឍមូលធនមនុស្ស ដែលជាលក្ខខណ្ឌមិនអាចខ្វះបាន សម្រាប់ជំរុញពិពិធកម្ម និង កំណើនសេដ្ឋកិច្ច ប្រកបដោយបរិយាបន្ន និង ភាពធន់។ មុំទី១នៃបញ្ចកោណនេះ សង្កត់ធ្ងន់លើការពង្រឹងគុណភាពវិស័យអប់រំ កីឡា វិទ្យាសាស្ត្រ និង បច្ចេកវិទ្យា។ ដើម្បីសម្រេចបាននូវគោលដៅយុទ្ធសាស្ត្រក្នុងការបង្កើតបរិយាកាសល្អសម្រាប់ការអប់រំប្រកបដោយគុណភាព និងជំនាញខ្ពស់ អាទិភាពមួយក្នុងចំណោមអាទិភាពទាំងប្រាំពីរដែលរាជរដ្ឋាភិបាលកំណត់នៅក្នុងមុំទី១នេះគឺ ការបន្តពង្រឹងគុណភាពអប់រំ និង ការធ្វើបច្ចុប្បន្នកម្ម កម្មវិធីអប់រំនៅគ្រប់កម្រិតសិក្សា។ ឆ្លើយតបនឹងអាទិភាពថ្នាក់ជាតិនេះ ក្រសួងអប់រំ យុវជន និងកីឡា បានដាក់ចេញនូវផែនការយុទ្ធសាស្ត្រវិស័យអប់រំ ឆ្នាំ២០២៤-២០២៨ ដែលផ្តោតលើអាទិភាពកំណែទម្រង់នៃការអប់រំនៅគ្រប់កម្រិត។ ជាក់ស្តែង នៅក្នុងអនុវិស័យឧត្តមសិក្សា ក្រសួងអប់រំ យុវជន និងកីឡា បានកំណត់គោលបំណងដើម្បីធ្វើទំនើបកម្ម និង អនុវត្តកម្មវិធីអប់រំនៅឧត្តមសិក្សាតាមបែបការអប់រំផ្អែកលើលទ្ធផល (Outcome-Based Education) ដើម្បីផលិតនិស្សិតបញ្ចប់ការសិក្សាឱ្យមានសមត្ថភាពពេញលេញទាំងចំណេះដឹង ចំណេះធ្វើ និង អាកប្បកិរិយាល្អ សម្រាប់បំពេញតម្រូវការនៃទីផ្សារការងារ និង ការអភិវឌ្ឍសេដ្ឋកិច្ច-សង្គម ។ គោលបំណងនេះ ក៏ត្រូវបានត្រួសត្រាយដោយក្របខ័ណ្ឌគុណវុឌ្ឍិជាតិកម្ពុជា និង ជម្រើសនៃវិធីកែលម្អគុណភាពជាប្រចាំ។

ដើម្បីផ្តល់នូវក្របខ័ណ្ឌជាក់លាក់មួយ ដែលប្រើប្រាស់វិសាលគមពេញលេញនៃទស្សនវិជ្ជាការអប់រំផ្អែកលើលទ្ធផល សម្រាប់ការធ្វើទំនើបកម្មកម្មវិធីសិក្សា **ក្របខ័ណ្ឌអប់រំអនាគតផលសម្រាប់ការអប់រំផ្អែកលើលទ្ធផលនៅឧត្តមសិក្សាកម្ពុជា** ត្រូវបានរៀបចំឡើង។ ការអភិវឌ្ឍក្របខ័ណ្ឌនេះ ជាជំហានមួយនៃជំហានសំខាន់ជាច្រើនទៀតក្នុងការសម្រួល និង ពង្រឹងដល់ការរៀបចំ និងការអនុវត្តទស្សនវិជ្ជាការអប់រំផ្អែកលើលទ្ធផលនៅឧត្តមសិក្សាកម្ពុជា។ លើសពីនេះទៀត ការអភិវឌ្ឍ**ក្របខ័ណ្ឌអប់រំអនាគតផល**នេះ ជួយកែលម្អគុណភាពនៃកម្មវិធីអប់រំឱ្យសម្រេចបាននូវស្តង់ដាជាតិ និង អន្តរជាតិ រួមទាំងស្តង់ដាគុណភាព នៃបណ្តាញសាកលវិទ្យាល័យអាស៊ានផងដែរ។

ដោយអនុវត្តវិធីសាស្ត្រចូលរួមពីក្រោមទៅលើ ការអភិវឌ្ឍ**ក្របខ័ណ្ឌអប់រំអនាគតផល**នេះ ត្រូវបានរៀបរៀងឡើងជាមួយនឹងធាតុចូលគ្រប់ជ្រុងជ្រោយពីគ្រឹះស្ថានឧត្តមសិក្សា និងការគាំទ្រ និងការណែនាំផ្ទាល់ពីអ្នកជំនាញការអន្តរជាតិផ្នែកគ្រប់គ្រង និង អភិវឌ្ឍកម្មវិធីអប់រំឧត្តមសិក្សា។ លទ្ធផលចុងក្រោយនៃក្របខ័ណ្ឌនេះ ត្រូវបានបង្កើតទស្សនទានជាពហុកម្រិតគឺ រចនាសម្ព័ន្ធជារង្វង់ ដែលត្រូវបានប្រទាក់ក្រឡាគ្នាជាប្រាំស្រទាប់។ ស្រទាប់ទាំងប្រាំនេះសាងសង់បន្តគ្នា ដោយចាប់ផ្តើមពីសមាសភាគអប់រំស្នូល និង ពង្រីកដល់គុណសម្បទារបស់និស្សិតបញ្ចប់ការសិក្សា។

សមាសភាគស្នូល នៃក្របខ័ណ្ឌនេះគឺ កម្មវិធីសិក្សាបរិវត្តន៍ គរុកោសល្យនវានុវត្តន៍ និង សមាវាយតម្លៃលទ្ធផលសិក្សា ដែលសមាសភាគនីមួយៗដើរតួនាទីយ៉ាងសំខាន់ក្នុងការតម្រង់ទិស និងផ្តល់បទពិសោធអប់រំប្រកបដោយថាមវន្ត និង រឹងមាំសម្រាប់និស្សិតបញ្ចប់ការសិក្សា។ ខណៈពេលដែលស្រទាប់ទីពីរ លម្អិតអំពីសមាសធាតុទាំងឡាយនៃសមាសភាគស្នូល ស្រទាប់ទីបី ពិភាក្សាអំពីកម្លាំងចលករ ដែលរួមបញ្ចូលក្របខ័ណ្ឌអប់រំជាមួយនឹងគោលដៅជាតិ និង សង្គមទូលំទូលាយទៅក្នុងការរៀបចំ និងការអនុវត្តកម្មវិធីអប់រំនៅឧត្តមសិក្សា។ ស្រទាប់ទីបួនបង្ហាញគំរូនៃការរៀបចំកម្មវិធីអប់រំ ដែលត្រូវបានតាក់តែងឱ្យឆ្លើយតបនឹងតម្រូវការរបស់អ្នកសិក្សា និងវិស័យផ្សេងៗទៀត ក្នុងការធានាឱ្យបាននូវការអនុវត្តជាក់ស្តែងនៃចំណេះដឹងផ្នែកទ្រឹស្តី។ ស្រទាប់ចុងក្រោយ ដែលជា

ស្រទាប់ដ៏សំខាន់បំផុត គឺបញ្ចាគុណសម្បទា ឬ កញ្ចប់សមត្ថភាពទាំងប្រាំរបស់និស្សិតបញ្ចប់ការសិក្សា ដែលរួមមានៈ **១). ការសិក្សាពេញមួយជីវិត ២). ការគិតជាប្រព័ន្ធ ៣). ភាពធន់ ៤). បំណិនសតវត្សទី២១ និង ៥). មានសម្បទាពេញលេញ និងគំនិតសហគ្រិនភាព** ដែលជាការត្រៀមខ្លួនរួចស្រេចនាអនាគតសម្រាប់ទីផ្សារការងារប្រែប្រួលរហ័សនៅក្នុងពិភពលោកដ៏ស្មុគស្មាញ។

ជាមួយគ្នានេះ ដើម្បីផ្តល់ការណែនាំលម្អិតអំពីស្រទាប់ទាំងប្រាំនៃ**ក្របខ័ណ្ឌអប់រំអនាគតផល**នេះ ឧបសម្ព័ន្ធចំនួនបីនៃក្របខ័ណ្ឌនេះ ដែលរួមមាន គោលការណ៍ណែនាំស្តីពីកម្មវិធីសិក្សាបរិវត្តន៍ គោលការណ៍-ណែនាំស្តីពីគរុកោសល្យនានុវត្តន៍ និង គោលការណ៍ណែនាំស្តីពីសមាហរណកម្មលទ្ធផលសិក្សា ត្រូវបានចងក្រងសម្រាប់តម្រង់ទិសដល់ការធ្វើទំនើបកម្ម និងការអនុវត្តកម្មវិធីអប់រំផងដែរ។

តាងនាមក្រសួងអប់រំ យុវជន និងកីឡា ខ្ញុំសូមថ្លែងអំណរគុណចំពោះមន្ត្រីអប់រំជំនាញ និងមានការប្តេជ្ញាចិត្តទាំងអស់ ដែលបានលះបង់ទាំងពេលវេលា និងទាំងកម្លាំងកាយ ដើម្បីរៀបរៀងក្របខ័ណ្ឌអប់រំ និងឧបសម្ព័ន្ធដ៏ល្អនេះឡើង។ **ក្របខ័ណ្ឌអប់រំអនាគតផល** នេះត្រូវបានបង្កើតឡើងទាន់ពេលវេលាដើម្បីបង្ហាញពីវង្គពេញលេញនៃការធ្វើបរិវត្តកម្ម និងការប្រតិបត្តិកម្មវិធីអប់រំ សម្រាប់ផលិតនិស្សិតបញ្ចប់ការសិក្សា ដែលមានសមត្ថភាព និងត្រៀមខ្លួនជាស្រេចសម្រាប់ការងារនាពេលអនាគតដើម្បីឱ្យឆ្លើយតបទៅនឹងយុទ្ធសាស្ត្របញ្ចកោណ និង ចក្ខុវិស័យឆ្នាំ២០៣០ និងឆ្នាំ២០៥០ របស់រាជរដ្ឋាភិបាលកម្ពុជា។ ក្នុងន័យនេះ ខ្ញុំសូមលើកទឹកចិត្តដល់គ្រប់គ្រឹះស្ថានឧត្តមសិក្សា និង បុគ្គលិកអប់រំទាំងអស់ឱ្យអនុវត្ត**ក្របខ័ណ្ឌអប់រំអនាគតផល** នេះឱ្យបានគ្រប់ជ្រុងជ្រោយក្នុងជីវភាពការងារប្រចាំថ្ងៃរបស់ខ្លួន។

ថ្ងៃ ចន្ទ ៥ កើត ខែ ភទ្របទ ឆ្នាំម្សាញ់ សប្តស័ក ព.ស. ២៥៦៩
រាជធានីភ្នំពេញ ថ្ងៃទី ២៥ ខែ កញ្ញា ឆ្នាំ២០២៥

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រដ្ឋមន្ត្រីក្រសួងអប់រំ យុវជន និងកីឡា

ហង់ជួន ណារ៉ុន

PREFACE

The first side of the Pentagonal Strategy-Phase 1 of the seventh legislature of the Royal Government of Cambodia (RGC) focuses on human capital development, which is an indispensable condition for economic diversification, enhancement of inclusive and resilient economic development, and development of responsible citizenship. The first angle of the first pentagon places emphasis on the enhancement of the quality of education, sport, science, and technology. To achieve the strategic goal in creating conducive environment for high quality and skilled education, one of the seven key priority areas that the RGC focuses on is to continue enhancing quality of education and updating the curricula at all levels of education. In line with this national priority area, the Ministry of Education, Youth and Sport (MoEYS), has developed and implemented the Education Strategic Plan 2024-2028, which focuses on strategic reforms at all levels of education. As evidence, for higher education sub-sector, MoEYS has aimed to modernise and implement the Outcome-Based Education (OBE) in higher education to produce fully competent graduates with knowledge, skills, and attitude to meet the needs of the labour market and socio-economic development. The adoption of OBE is also guided by the Cambodian Qualification Framework (CQF) and the principle of Continuous Quality Improvement (CQI) in academic programme design and delivery.

To provide a specific framework that employs the full spectrum of OBE philosophy for the academic programme modernisation, the ***FutureFit Educational Framework for Outcome-Based Education in Cambodian Higher Education*** was developed. The development of this framework is one of the main steps in streamlining and cementing the development and implementation of the OBE philosophy in higher education in Cambodia. Moreover, the development of the ***FutureFit Educational Framework*** helps improve the quality of the programmes to meet national and international standards, including that of the ASEAN University Network (AUN).

Employing a bottom-up participatory approach, the development of the ***FutureFit Educational Framework*** was done with the comprehensive inputs from the higher education institutions and the support and guidance from the international experts specialising academic programme development and management. The final outcome of the framework is conceptualised as a multi-tiered, cyclic structure comprising five interconnected layers. These layers progressively build on each other, starting from the core educational components and extending to the attributes of the graduates.

The core components are transformative curriculum, innovative pedagogy and holistic assessment, each integral in shaping a robust and dynamic educational experience for the students. While the second layer details elements of the core components, the third layer discusses the enablers and drivers integrating the educational framework with the institutional goals, and broader societal and national goals in the design and delivery of the programme. The fourth layer presents the designs of programmes which are tailored to various sectors and individual needs, ensuring practical application of theoretical knowledge. The last, yet the most significant layer, is the graduates attributes or skill sets. This layer outlines the pentagonal desired characteristics and competencies of graduates which include: ***i) lifelong learners, ii)***

systems thinking, iii) resilience, iv) 21st century skills, and v) holistic and entrepreneurial graduates that are future ready for the agile job market in the complex world.

Also, to provide detailed guidance on the five layers of the ***FutureFit Educational Framework***, its three separate appendices on the Guideline on Transformative Curriculum, Guideline on Innovative Pedagogy, and Guideline on Holistic Assessment have also been developed to orientate the academic programme modernisation and implementation at HEIs.

On behalf of the ***Ministry of Education, Youth and Sport***, I would like to express my sincere thanks to all our committed and energetic officers who have been devoting both time and energy to produce this wonderful framework and its appendices. This ***FutureFit Educational Framework*** is timely developed to guide the complete cycle of academic programme transformation and implementation to produce qualified and future ready graduates to respond to the Pentagonal Strategy and Vision 2030 and 2050 of the Royal Government of Cambodia. I, therefore, highly encourage all higher education institutions and educational personnel to mainstream the implementation of the ***FutureFit Educational Framework*** in their daily work.

Phnom Penh, 15th September **2025**
Deputy Prime Minister
Minister of Education, Youth and Sport

Dr. HANG CHUON NARON

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ABBREVIATIONS AND ACRONYMS

Abbreviations	Full Words
ABET	Accreditation Board for Engineering and Technology, Inc
ACC	Accreditation Committee of Cambodia
AUN-QA	ASEAN University Network-Quality Assurance
CDIO	Conceive-Design-Implement-Operate
CLO	Course Learning Outcome
CQF	Cambodia Qualification Framework
CQI	Continuous Quality Improvement
CSDG	Cambodia Sustainable Development Goals
DGHE	Directorate General of Higher Education
FEF	FutureFit Educational Framework
GDP	Gross Domestic Product
HEI	Higher Education Institution
IQA	Internal Quality Assurance
KSA	Knowledge, Skills, Attitude
LO	Learning Outcome
MoEYS	Ministry of Education, Youth and Sport
OBE	Outcome-Based Education
OECD	Organisation for Economic Co-operation and Development
PAI	Public Administrative Institution
PBL	Problem-Based Learning
PDCA	Plan-Do-Check-Act
PEO	Program Educational Objective
PLO	Program Learning Outcome
PoBL	Project Oriented Based Learning
PS	Pentagonal Strategy
QA	Quality Assurance
R, D, C & I	Research, Development, Commercialisation and Innovation
RGC	Royal Government of Cambodia
STEAM	Science, Technology, Engineering, Arts and Mathematic
STEM	Science, Technology, Engineering and Mathematic

EXECUTIVE SUMMARY

Outcome-Based Education (OBE) focuses on clearly defining and attaining the desired learning outcomes that students should achieve at the end of a programme. Therefore, planning and implementing of study programmes which are based on OBE will certainly increase public trust that the programmes offered by the institutions meet the quality standards in preparing graduates for the work market, both locally and globally. The OBE-based programmes prepare graduates for any challenges that they may encounter in both their professional life and their future. OBE also instils a culture of continuous improvement, aligning the curriculum and its implementation to meet industry needs, and for the HEIs to be ahead as a competitive provider for education. In this sense, the ***FutureFit Educational Framework (FEF)*** is deemed as the comprehensive structure in shaping the future of Cambodian higher education to produce human capital responding to the MoEYS reform agenda, Education Strategic Plan as well as the Pentagonal Strategy of the Royal Government of Cambodia using the OBE philosophy.

In order to produce future ready graduates, FEF provides a foundation for educators and university leaders in developing a transformative curriculum, implementing innovative pedagogies and conducting holistic assessments to produce the graduates who are future ready and has the attributes to be competitive and remain competent throughout their lives in the ever-changing workplace or environment.

Overall, under FEF, the graduates will have the following attributes: lifelong learning, system thinking, resilience, 21st century skills, and holistic and entrepreneurial mindset. These could be achieved through industry-driven, community resilient, research-infused, and personalised learning which are embedded in the curriculum. The curriculum development shall incorporate the Cambodia Sustainable Development Goals (CSDG), the Pentagonal Strategy (PS) and other national development policies of the country as well as related global and institutional policies. Curriculum design shall be competency-focused, multi, inter and trans-disciplinary, as well as providing global perspectives and experience for students, while still allowing some flexibility in the structure of the programmes. To produce graduates with these attributes, the pedagogy has to be innovative and student-centric. With the spectrum of outcomes to be assessed, holistic assessment methods need to be applied to ensure the various learning outcomes are achieved.

Ultimately, with both vertical and horizontal alignment, the Cambodian FEF can effectively prepare students for future careers and equip them with knowledge, skills and attitude and values to succeed in their chosen fields and lives. The framework does not only help support the academic programmes to modernise themselves to meet the national minimum standards but also prepare them for regional and international programme quality recognition and accreditation, including by the ASEAN University Network (AUN).

1. INTRODUCTION

The academic programme modernisation is one of the main steps in streamlining and cementing the development and implementation of the Outcome-Based Education (OBE) philosophy in higher education in Cambodia. Therefore, to provide contextual background to the framework, this section covers three interconnected themes; the snapshot of Cambodian national development, the overview of higher education in Cambodia and the need for FutureFit Educational Framework.

1.1 Snapshot of Cambodian National Development

Cambodia aspires to become an upper-middle and high-income country by 2030 and 2050, respectively. To achieve the vision, the government had recently endorsed the Pentagonal Strategy for Growth, Jobs, Equity, Effectiveness, and Sustainability, a commitment made to increase economic diversification, competitiveness, resilience, and social progress through creating added value to economic activities, promoting the growth of key industries and agro-industries, and investing in social development. The strategies will include maintaining the annual GDP growth rate of 7%, diversifying pillars for economic development, increasing Cambodia's competitiveness, and modernising the economy, especially through the digital economy and investment in higher education programmes and research that addresses local problems and promotes development and innovation.

Among the five angles for intervention, human capital development is one of the priority areas of the Pentagonal Strategy. As stated in this 7th mandate, in order to achieve the Pentagonal Strategy, the government has set the long-term goal for the sector to produce "Cambodian people [who] shall be highly knowledgeable and have at least one skill in life, with perseverance, entrepreneurial spirit, innovation, and high morality". In the next 25 years, the government is committed to creating new jobs, in both quantity and quality, and producing quality human resources with entrepreneurial spirit and digital skills through improving the quality of education at all levels, particularly the relevance and quality of higher education. Ensuring academic programmes meet national and international standards that will be able to produce competent graduates for the labour market and socio-economic development is an important agenda for the country's development.

In line with the national development goals, the Ministry of Education, Youth and Sport (MoEYS) has developed policy documents and strategic plans to advance the sector to address development needs of the country. Expanding both the quantity and quality of higher education is still one of the priority areas of the educational development goals, with the ultimate goal of making higher education a national intellectual capital and global stock of knowledge. This can be achieved through improving the quality of education, increasing enrolment in science, technology, engineering, arts and mathematics (STEAM) majors, and improving institutional and sectoral governance. In this mandate, the priorities for the sub-sector are enhancing the relevance and quality of academic programmes.

1.2 Overview of Higher Education in Cambodia

Over the past 10 years, the higher education sub-sector has achieved remarkable progress, especially in quantitative terms. Under 17 ministries, higher education institutions (HEIs) have expanded from 110 in 2013 to 194 in 2024. Sixteen public HEIs have been granted the status of Public Administrative Institutions (PAI), the student enrollment rate has increased from about 10% of the youth-age cohort (18-22) in 2013 to 19.08% in 2024, the gap between female and male students in higher education has been significantly reduced; and enrollment in science, technology, engineering, and mathematic (STEM) fields has also seen an increase from 19.6% in 2013-2014 to 33.78% in 2023-2024.

Despite this progress, there are challenges that MoEYS and HEIs need to address. These include low student enrollment, skills mismatch and gaps, and quality assurance mechanisms to ensure that HEIs in Cambodia can move up the ranking, be it regionally or internationally, and that graduates are competent for the needs of the labour market and socio-economic growth. According to the Organisation for Economic Co-operation and Development (OECD, 2024), nations with the highest tertiary education attainment percentages in 2023 are South Korea (70%), followed by Canada (67%) and Japan (66%). This implies that providing greater access to higher education is one of the mechanisms to accelerate economic development. It can be done by providing several pathways for enrolment in higher education or earning a degree, and by providing financial schemes for students in forms of scholarship or loan.

As yet, Cambodia has not seriously enforced the need for a strong internal quality assurance (IQA) system and accreditation or recognition of academic programmes before they are offered by the institution, as is customarily practiced in more advanced countries. This is an area that needs further improvement. Once IQA and accreditation have become a culture, many programmes can also seek international accreditation. Consequently, the employment rate and starting pay of the graduates may significantly increase.

Research, development, commercialisation and innovation (R, D, C & I) cultures also need to be strengthened in the HEIs. Apart from public innovation funding, the industries may also be more involved when the R, D, C & I efforts benefit both parties.

In this regard, the HEIs need to produce all levels of skilled professionals, from scientists and innovators to engineers/professionals, and from professionals to technicians/technical officers, to serve national development. Therefore, university academic programmes must be internationally recognized and international exchange programmes for teaching and learning and research must be continuously improved. The reputation of academic programmes and collaborative research by the HEIs is one of the main criteria for creating internationalisation. Flexibility and adaptability of HEIs to external and internal circumstances are really necessary for any HEI to ensure its effectiveness and quality of educational outcomes. The availability, relevance and quality of academic programmes contribute substantially to Cambodia's development goals.

1.3 The Need for FutureFit Educational Framework

Outcome-Based Education focuses on clearly defining and attaining the desired learning outcomes that students should achieve at the end of a course or programme that can respond to the needs of stakeholders. The curriculum, teaching methods, assessments, and resources are then aligned with these outcomes to ensure that students develop the necessary knowledge, skills, and attitudes to prepare them in both their professional and personal life.

The development and implementation of OBE require a system with a clearly defined framework of exit outcomes. There are four principles of OBE, they are: i) Clarity of focus; ii) Expanding learning opportunities; ii) High expectations for learning success; and iv) Design down (Spady, 1994).

Under the support of the Cambodian Higher Education Improvement Project (HEIP), 67 academic programmes of five public HEIs have been developed/revised and assessed by external experts. The evaluation results indicated that some programmes have reached development goals in terms of quality improvement, whereas some programmes need to be further improved, while prominent ones shall aspire for international recognition or accreditation.

Realising the need for standardisation in the teaching and learning processes, as well as ensuring that the education system in Cambodian higher education meets a certain quality standard such as those set by the ASEAN University Network–Quality Assurance (AUN-QA) or even the Accreditation Board for Engineering and Technology, Inc. (ABET) and other international accreditation agencies, the correct implementation of OBE has to be fully realised. To guide all implementers in conducting OBE, guiding principles in the form of the OBE framework and its process flow must be developed to ensure clear execution and monitoring of the OBE implementation. It will require adherence to the principles that underpin OBE, which include realignment of the teaching and learning processes and assessment to achieve the desired outcomes. Most importantly, it requires a paradigm shift among instructors and university management in terms of curriculum design, delivery, and assessment.

As recommended by the evaluators, a 'generic academic programme development framework' needs to be developed to ensure the quality of all academic programmes. The framework will provide technical support and guidance to HEIs to modernise their curricula, teaching and learning, and assessment to align with the essence of OBE and promote active learning and innovative assessment are the priorities.

This framework will be the main source of reference for the entire process of academic programme development, delivery, monitoring and evaluation that HEIs in Cambodia shall comply. The framework will shape programme development and delivery to produce qualified human resources in line with the five pillars of the Pentagonal Strategy.

The planning and implementation of study programmes that are based on OBE philosophy will certainly increase public trust that the programmes offered by the institutions meet the quality standards in preparing graduates for the work market, both locally and globally. It should be

able to prepare them for any challenge that they may encounter in both their professional life and their future. OBE instils a culture of continuous improvement, aligning the curriculum and its implementation to meet industry needs, and for the HEIs to be ahead as a competitive provider for education. To remain significant, the graduates need to be prepared for the uncertain future, hence the FutureFit Educational Framework (FEF) is deemed as the comprehensive structure in shaping the future of Cambodian higher education.

2. FUTUREFIT EDUCATIONAL FRAMEWORK

This section presents the aims and principles of the FutureFit Educational Framework, then moves on to key components of the framework illustrated in cyclic structure. This later sub-section details all the elements included, from the core layer to the outer layer.

2.1 Aims and Principles of FutureFit Educational Framework

2.1.1 Aims of FutureFit Educational Framework

The FEF is a forward-thinking educational framework aimed at producing graduates with knowledge and attributes that can challenge and adapt to any change in the world of work, market demand and social expectations.

The FEF is developed to provide a conceptual framework for HEIs to continuously improve their academic programmes so as to produce graduates who are comprehensive, agile, versatile and can adapt to the complex world and become the much-needed talents to realise Cambodia Vision 2030 and 2050. It provides a coherent structure that embeds the driving forces behind producing graduates with attributes that can fit future challenges. Hence, curricula that are designed according to FEF incorporate the country's development vision and fast-changing market needs, and are also to the Cambodia Sustainable Development Goals (CSDG) and the Pentagonal Strategy. Approaches including Plan-Do-Check-Act (PDCA), Continuous Quality Improvement (CQI) and Conceive-Design-Implement-Operate (CDIO) may be utilised for effective and efficient implementation of this framework.

2.1.2 Principles in Producing the FutureFit Educational Framework

FutureFit is a term coined to refer to graduates who are prepared to embrace the future challenges, however unforeseeable the challenges may be. In order to produce FutureFit graduates, there is a need to develop the framework that serves as a guiding principle for programme development and delivery, hence providing a foundation for educators and university leaders in developing a transformative curriculum, implementing innovative pedagogies and conducting holistic assessments to produce graduates who are future-ready and has the attributes to be competitive and remain competent throughout their lives in the ever changing workplace or environment. These graduate attributes could be achieved through industry-driven, community resilient, research-infused, and personalised learning which are embedded in the curriculum. In order to achieve these outcomes, the curriculum development shall incorporate the Cambodia Sustainable Development Goals (CSDG), the Pentagonal

Strategy (PS) and other national development policies of the country. Curriculum design shall be competency-focused, multi, inter and trans-disciplinary, as well as providing global perspectives and experience for students, while still allowing flexibility in the structure of the programmes. To produce graduates with these attributes, the pedagogy has to be innovative and student-centric. With the spectrum of outcomes to be assessed, holistic assessment methods need to be applied to ensure the various learning outcomes are achieved. Integrating fundamental principles in OBE, which are CQI, PDCA or CDIO are crucial in ensuring the continuous enhancement of the curriculum and its processes.

2.2 Key Components of the FutureFit Educational Framework

The FutureFit Educational Framework (FEF) for Outcome-Based Education (FEF-for-OBE) is conceptualised as a multi-tiered, cyclic structure comprising five interconnected layers (Figure 1). These layers progressively build on each other, starting from the core educational components (the centre) and extending to the attributes of the graduates (the outer).

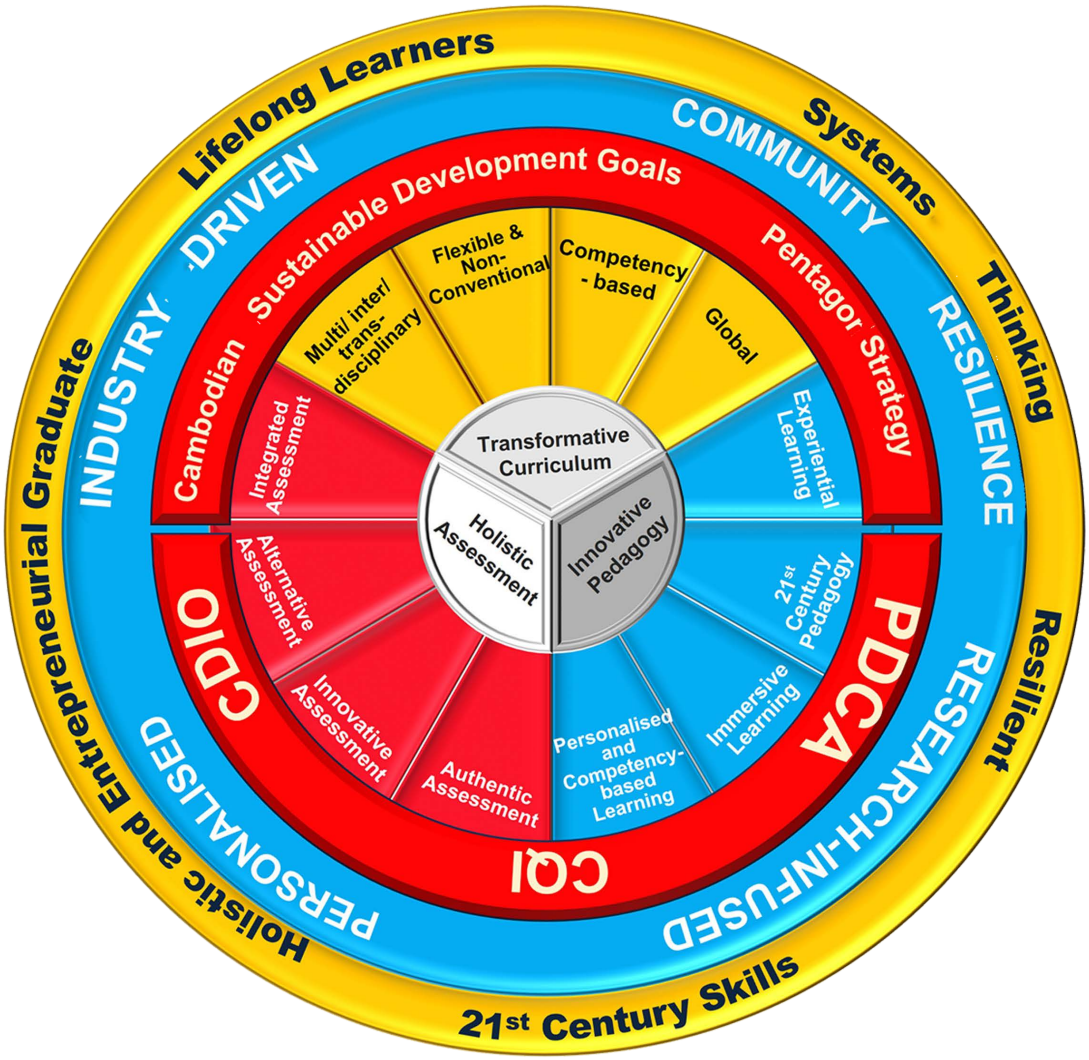

Figure 1: FutureFit Educational Framework for Outcome-Based Education (FEF-for-OBE)

(Source: Adapted from the EXCEL Framework, Ministry of Higher Education Malaysia, 2021)

First, ***the core components*** comprise Transformative Curriculum, Innovative Pedagogy and Holistic Assessment, each integral in shaping a robust and dynamic educational experience for the students.

The ***second layer—elements of the core components***—is as follows:

Transformative Curriculum:

***Multi, Inter, and Trans-Disciplinary*:** This method dismantles disciplinary boundaries and fosters a holistic perspective of the curriculum that reflects the interdependence of real-world issues and solutions. In order to create and resolve challenging problems, it pushes students to utilise and integrate knowledge from several fields.

***Flexible and Unconventional*:** The curriculum is meant to be flexible, allowing for customisation in accordance with personal preferences, areas of interest, and the always changing needs of the industry and society. This ensures relevance and applicability.

***Competency-Based*:** This approach makes sure that education is in line with the needs of the actual world by emphasising the development of relevant competencies; knowledge, abilities, and attitudes, that are essential for success in the contemporary world.

***Global*:** The curriculum takes a worldwide viewpoint into account, equipping students to thrive in a world that is becoming more interconnected and globalised.

Innovative Pedagogy:

***Experiential Learning*:** It is an innovative pedagogy that emphasises learning by doing and reflecting, giving students real-world experiences that strengthen comprehension and increase retention.

***21st Century Pedagogy*:** This approach combines contemporary instructional techniques to promote the critical thinking, creativity, teamwork, and communication skills that are essential for success in the modern world.

***Immersive Learning*:** This method creates completely interactive, multimodal learning experiences that captivate students. It leverages technologies, such as augmented or virtual reality.

***Personalised Learning*:** To ensure maximum engagement and effectiveness, education is customised to each student's learning preferences, interests, and styles.

***Competency-Based Learning*:** Just as the curriculum, the pedagogy is organised around the development of particular competencies, guaranteeing that the instructional strategies directly support the acquisition of critical knowledge and abilities.

Holistic Assessment:

***Authentic Assessment*:** A type of holistic assessment that requires students to apply their knowledge to actual situations in order to make sure that what they have learned is useful outside of the classroom.

***Innovative Assessment*:** It makes use of cutting-edge tools and techniques, including AI-based instruments and platforms to assess student learning in a way that is more thorough, interesting, and customised to meet specific learning objectives.
***Alternative Assessment*:** This approach accommodates various learning styles and preferences by offering a variety of opportunities to demonstrate knowledge and abilities outside of typical tests and exams.

***Integrated Assessment*:** It is a thorough process that blends several techniques and instruments to evaluate learning and give a complex picture of students' development and performance.

Third Layer: Enablers and Drivers

This layer acts as a pivotal force, integrating the educational framework with broader societal and national goals and enablers in the design and delivery of the programme. It includes:

Enablers:

- ***Cambodia Sustainable Development Goals (CSDG)***: Aligns the educational framework with Cambodia's national development goals, promoting sustainable growth and enhancing the quality of life for its citizens.

- ***Pentagonal Strategy (PS)***: A comprehensive approach that aligns education with national priorities, focusing on economic, social, cultural, environmental, and institutional development of the Royal Government of Cambodia (RGC).

Drivers:

- ***Plan-Do-Check-Act (PDCA)***: This iterative management method focuses on continuous improvement in processes and products, driving institutions within the FEF to evolve and refine their educational offerings.

- ***Conceive-Design-Implement-Operate (CDIO)***: It is a progressive educational framework that equips students with practical skills and knowledge, emphasising real-world systems and products, and is crucial for applied fields like engineering.

- ***Continuous Quality Improvement (CQI)***: This process fosters an environment dedicated to continuous enhancement of quality, ensuring education standards keep pace with evolving needs.

Fourth Layer: Designs of Programme

This layer focuses on experiential learning tailored to various sectors and individual needs, ensuring practical application of theoretical knowledge:

- ***Industry-Driven Experiential Learning***: Fosters partnerships with industry stakeholders to provide practical experiences and align education with current industry standards.

- ***Community Resilience Experiential Learning***: Integrates learning with community development, encouraging students to apply their knowledge to real-life challenges.

- ***Research-Infused Experiential Learning***: Encourages engagement in research projects to deepen understanding of the field and foster critical thinking.

- ***Personalised Experiential Learning***: Offers customised educational pathways, allowing students to align their learning with personal interests and career aspirations.

Fifth Layer: Graduates Attributes or Skill Sets

This layer outlines the desired characteristics and competencies of graduates. This includes:

- ***Lifelong Learners****:* Giving individuals the capacity and motivation to continuously seek knowledge and skills and adapt to changes, ensuring personal and professional growth.

- ***Systems Thinking***: The ability to understand and address complex problems by viewing them holistically.

- ***Resilience***: The capacity to overcome challenges, adapt to changes with a growth mindset, and view obstacles as opportunities for learning and advancing.

- ***21st Century Skills*****:** Essential skills including critical thinking, creativity, collaboration, communication, and leadership.

- ***Holistic Perspective*****:** Balancing technical expertise with an understanding of ethical, social, and global issues.

- ***Entrepreneurial Mindset*****:** The drive and innovation to identify opportunities, generate solutions, and navigate uncertainties.

The FEF, through these layered components, ensures that graduates are not only academically proficient but also ready to lead, innovate, and contribute positively to their professions and communities.

3. FUTUREFIT CURRICULUM PROCESS FLOW

Figure 2 shows the FutureFit Transformative Curriculum Development Process Flow. The comprehensive framework ensures that the curriculum is designed and implemented effectively. That is, it links the curriculum development stage to the innovative pedagogy stage and to the holistic assessment stage.

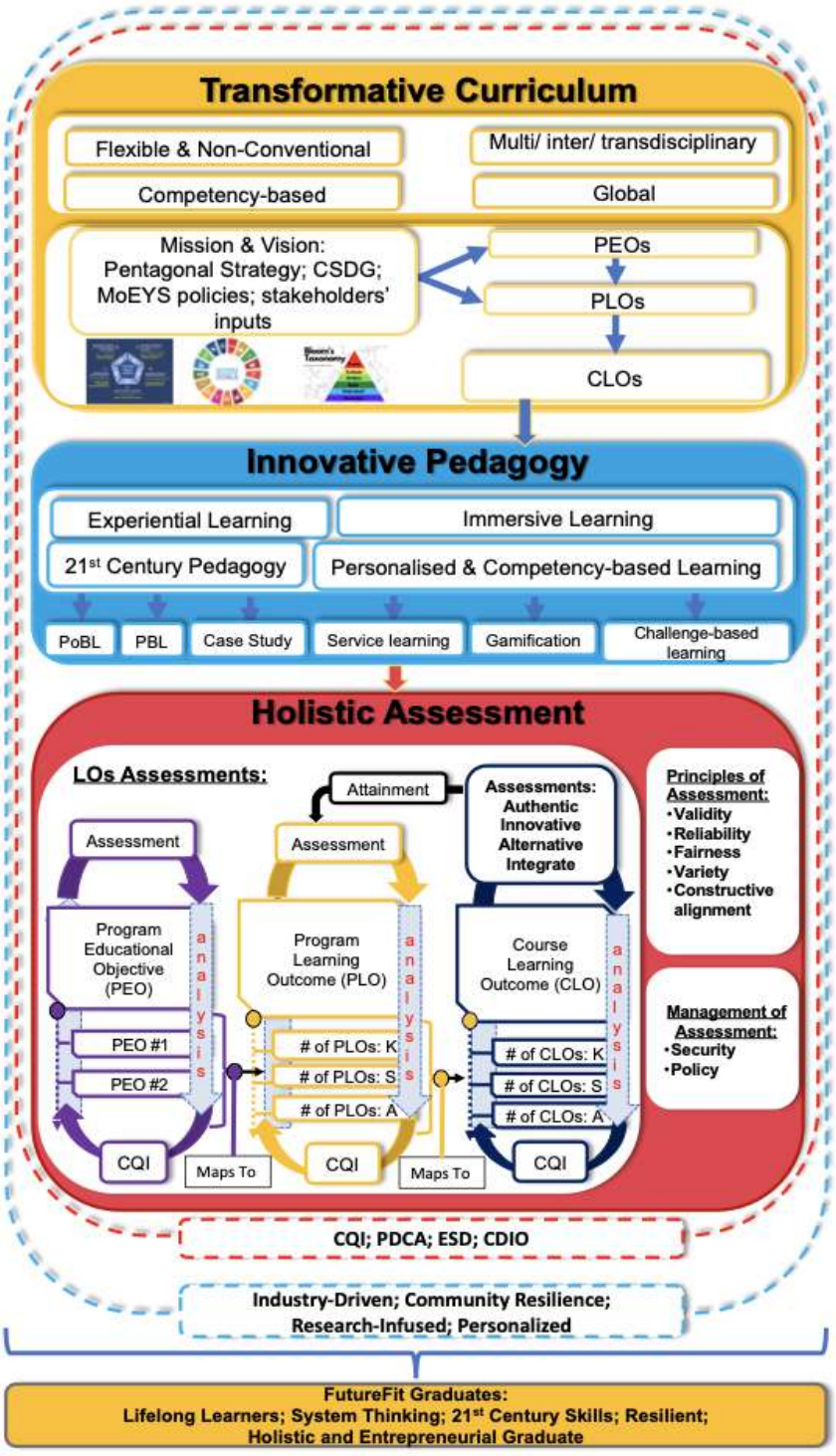

Figure 2: FutureFit Transformative Curriculum Development Process Flow

3.1 Transformative Curriculum

Transformative curriculum development adheres to principles that include flexibility, non-conventionality, multi/inter/trans-disciplinarity, competency-based content, and global perspectives. The initial phase, programme inception, involves defining the programme's vision and mission, as well as its programme educational objectives (PEOs) and programme learning outcomes (PLOs), which shall align with the institutional and national vision, mission, and goals. Following the establishment of the programme structure and content, the next phase involves developing course learning outcomes (CLOs) that align with the previously determined PLOs, essentially shaping the curriculum to meet these objectives. Continuous assessment and the implementation of a CQI plan are crucial at every stage. At the course level, restructuring the course outline, developing and aligning CLOs with PLOs, adopting innovative teaching and learning methods, and developing evaluation and assessment tools are essential steps. Adopting the Constructive Alignment Principle ensures alignment of learning outcomes, teaching and learning activities, and assessment methods.

3.2 Innovative Pedagogy

Innovative pedagogy encompasses effective learning strategies such as experiential learning, immersive learning, mastering 21st century skills, personalised and competency-based learning, all aimed at achieving the designed set of CLOs and PLOs. Delivery modes include Problem-based Learning (PBL), Project Oriented Based Learning (PoBL), case studies, service learning, gamification, laboratory-based learning, and challenge-based learning, among others. These methods are integral in engaging students actively and ensuring a deep understanding of the subject matter and building attitudes towards life and work.

3.3 Holistic Assessment

Holistic assessment provides a comprehensive evaluation of students' skills, knowledge, and attitudes. It consists of three main components: assessment of learning outcomes (LOs), principles of assessment, and management of assessment. The LOs assessment involves various methods, such as authentic, innovative, alternative, and integrated assessment, aimed at evaluating the attainment of course-specific CLOs and their contribution to the overarching PLOs. The principles of assessment ensure constructive alignment, fairness, validity, reliability, and use of variety of assessment methods. The management of assessment involves clear policies and secure examination procedures, ensuring the integrity and effectiveness of the assessment process.

4. QUALITY ASSURANCE IN OUTCOME-BASED EDUCATION

The FutureFit Educational Framework and the Transformative Curriculum Development Process Flow provide a guide on how the entire OBE process will be conducted. Quality assurance ensures that the framework is fully and effectively implemented, support structures and systems are established; quality standards, monitoring and evaluation of OBE practices and

continuous improvement processes become part of the teaching and learning culture. To ensure that the implementation of OBE meets a certain standard, the IQA office/unit must be established and work in every HEI to ensure that the system is in place to provide structures and tools for quality analysis, communicate data effectively for the promotion of good practice, implement procedures to continually review quality controls and practices, provide forums to challenge and assess quality and provide procedures to act on quality issues and manage risk.

4.1 Quality Standards and Benchmarks

Establishment of quality standards is crucial to ensuring the effectiveness of the entire OBE processes. In determining quality standards, it is essential for an education system to conduct benchmarking against external standards that are already well established and recognised. Many countries including Australia, the United Kingdom and Malaysia have accrediting bodies/agencies. Cambodia relies on requirements set in regulations issued by the RGC, including by MoEYS and standards set by the Accreditation Committee of Cambodia (ACC) and the ASEAN University Network-Quality Assurance (AUN-QA) for regional referencing.

For the IQA system to work, MoEYS shall continue to guide HEIs in developing, implementing and improving the IQA system to guide programme quality, while each department or HEI plays a vital role in decision-making, internal quality assurance, curriculum review, academic planning, data collection, and evaluating programme outcomes to ensure that their academic programmes meet the standards set by ACC and AUN-QA.

Student learning assessment is one of the most important elements of quality standards, as the outcomes of such assessments have a profound effect on students' future careers. It is therefore important that assessment is carried out professionally at all times and takes into account the existing testing and examination processes. Assessment also provides valuable information for institutions about the efficiency of teaching and learner support. The assessment will focus on the principles of assessment, which include validity, reliability, fairness, variety and constructive alignment; and the management of assessment, which focuses on security and policy.

4.2 Monitoring and Evaluation of OBE Practices

Monitoring and evaluation of OBE practices will require close monitoring of the implementation of this framework, the three associated guidelines, playbooks, and the national IQA minimum standards. Whereas monitoring of the practice according to the AUN-QA Assessment at the Programme Level (Version 4.0) focus on the following eight criteria, which are: (i) Expected Learning Outcomes; (ii) Programme Structure and Content; (iii) Teaching and Learning Approach; (iv) Student Assessment; (v) Academic Staff; (vi) Student Support Services; (vii) Facilities and Infrastructure; and (viii) Outputs and Outcomes.

The assessment begins by understanding stakeholders' needs, which are translated into expected learning outcomes for the programme. It involves three assessments. Firstly, evaluate

programme structure, content, teaching methods, and student assessment. Secondly, assess resources including academic staff, facilities and infrastructure. Thirdly, evaluate programme outcomes such as graduate quality, employment data, research outputs, and stakeholders' satisfaction. Quality enhancement involves a feedback loop based on the PDCA model across the eight criteria. The model emphasises meeting stakeholder needs, continuous improvement of the quality assurance system, and benchmarking of best practices.

4.3 Continuous Improvement Processes

The QA assessment models are applicable to the diverse fields offered by Cambodian HEIs, and are also aligned with the OBE quality assurance framework. In the process, there are three levels of assessment, which are institutional assessment, programme assessment, and course assessment.

4.3.1 Institutional Assessment

QA systems and policies need to be established, including the IQA system, internal and external quality assurance assessment and the IQA information management system. Strategic quality assurance begins with knowing the needs of the stakeholders. This means that quality assurance and quality assessment always begin with the mission and goals of the institution and end with the achievements or results that satisfy stakeholders' needs. Therefore, each HEI needs to have its own assessment system, including an assessment plan, management of assessment, review and improvement assessment, to ensure the quality of the programmes delivered. For continuous improvement, HEIs implement effective QA systems and also benchmark their practices to achieve educational excellence.

4.3.2 Programme Assessment

The assessment at the programme level focuses on the appropriateness of the curriculum design, teaching approaches and assessment methods to ensure that the expected PLOs are achieved. Periodic review of the curriculum needs to be conducted to ensure that, among others, the course contents, teaching approaches, assessment tools, and technology adoption are up-to-date and meet all stakeholders needs to produce graduates with the complete skills set. Quality enhancement requirements are a way of getting feedback to measure improvement, or a cycle of planning, doing, checking the output against pre-defined requirements, then acting on or adjusting (PDCA) the requirements for the next cycle of improvement.

4.3.3 Course Assessment

Course assessment refers to a variety of processes for gathering, analysing, and using information about student learning to support instructional decision-making, with the goal of improving student learning. Course-level assessment focuses on the assessment of the objectives and learning outcomes, teaching and learning approaches and assessment methods.

5. OPPORTUNITIES AND IMPACTS

The FEF and the Transformative Curriculum Development Process Flow provide a clear direction in the modernisation of the academic programmes, as well as opening up opportunities for advancement and innovation. Consequently, the programme modernisation will have an impact on human capital, economic and societal development, and most importantly, to the quality of the programmes that the HEIs offer.

5.1 Opportunities for Advancement and Innovation

FutureFit Educational Framework covers a multi-transdisciplinary and flexible non-conventional curriculum, thus creating opportunities for students to advance their career pathways and the pursuit of higher education while shaping their entrepreneurial mindset. Furthermore, the FEF provides a competency-based curriculum that guides the inclusive education environment where students of different levels of intellectual capabilities are given the opportunity to learn at their own pace and style. Another feature of this framework highlighting the global curriculum will open up opportunities for diversity in immersive learning, global classroom, and involvement in student mobility programmes.

Adoption of innovative pedagogies can unfold opportunities for diverse education. It can be in the form of experiential learning, 21st century pedagogy, immersive learning, personalised education, and competency-based learning. Immersive learning, such as virtual reality and 21st century pedagogy, may enhance engagement and retention, which provides students with opportunities to expose themselves to real-world problems and perspectives beyond what can be provided by the instructors. Personalised education tailors learning to individual needs, promoting autonomy so that they have the opportunity to take their educational ownership. Experiential learning, a cornerstone of this approach, encourages students to be actively engaged with real-world scenarios, fostering practical skills and deep understanding.

Holistic assessment presents a range of opportunities for educational advancement. By embracing authentic and innovative assessment methods, educators can evaluate students' knowledge and skills in real-world particular, the country context. As a result, it will promote deeper understanding and application of concepts so that students can have the opportunity to contribute to the community. The framework also emphasises alternative and integrated assessment methods to embrace the strength of diversification and validation of the mechanism so that the students can have opportunities to reflect on what they have learned and achieved.

The framework guides HEIs to regularly upgrade the educational system to align to the criteria set by national and international educational quality assurance, expand education and research collaboration, communication, mobility, and capacity building. The FEF can help society foster collaboration with HEIs to create new technology and develop graduates with leadership and entrepreneurial skills for the digital society, government, and economy. It also aligns the interests and goals of different stakeholders in education, from local to global levels.

5.2 Impacts of Academic Programme Modernisation

Academic Programme Modernisation for Cambodian Higher Education refers to the updating and improvement of academic programmes to meet current and future needs, as illustrated in the FEF. The modernisation will have impacts to the development of human capital, the recognition of the HEIs, and economic development of the nation.

5.2.1 Development of Human Capital Relevant to National and Industrial Needs

The Cambodian FEF framework can effectively prepare students for future careers and equip them with the knowledge, skills, attitude and values to succeed in their chosen fields. The framework develops learners' knowledge, problem-solving skills, research skills, technical skills, social skills, ethical values, communication skills, project management skills, and life-long learning skills as its fundamental principles. It better prepares students to be successful 21st century professionals.

5.2.2 Recognition of Higher Education Institutions

Application of the FEF allows HEIs to modernise their academic programmes and transform them to shift from teacher-led instruction to student-centred learning, encouraging students to take a more active role in their education. The framework guides HEIs to collaborate with communities, industries and international partners in support of the Pentagonal Strategy, the Cambodian Sustainable Development Goals (CSDG), and other development policies of the RGC. The improvements provide significant consequences, including accreditation of academic programmes, improvements of education quality, quality of graduates, employability of graduates, continuous professional development of academics (e.g., professorships, researchers), university ranking, internal governance systems, as well as national and international collaborations.

5.2.3 Economic and Societal Development

The use of the FEF in the design of the modernised academic curricula will contribute to the achievement of the five pillars of the Pentagonal Strategy of the RGC. The modernised programmes potentially build human capacity to meet the country's needs to support economic development and policy implementation to move the country to become an upper middle-income country by 2030 and a high-income one by 2050. The programmes will successfully produce graduates with 21st century skills, who have the potential to enhance the society and the economy with better resilience. These improvements enhance the employability and social responsibility of the graduates by aligning the learning outcomes with the current and future needs and expectations of industry, government, and society.

6. POLICY RECOMMENDATIONS

The FEF will generate a few policy implications at the national and institutional levels, as well as those involving industry and community networking with HEIs.

6.1 National Policy Implications

6.1.1 Policy Document Development

The FEF will be complemented by three guidelines and playbooks, to provide a clearer and more detailed explanation of the design of the transformative curriculum, and implementation of innovative pedagogies and holistic assessment. The development of these guidelines and playbooks will support the whole process of academic programme development and implementation. The framework, guidelines, and playbooks will support HEIs in modernising their academic programmes and in preparing them to meet national, regional, and international quality recognition, including the AUN-QA. Few policies pertaining to quality assurance of academic programmes will emerge to ensure the adoption of the framework, guidelines, and playbooks.

6.1.2 DGHE-OBE Team Establishment for Academic Programme Modernisation Based on FEF

To successfully implement the framework and associated guidelines and playbooks, a steering committee and a DGHE-OBE team for academic programme modernisation has been formed. The former includes the MoEYS policymakers, senior technical specialists of DGHE, and senior leadership of the five target HEIs. The latter consists of committed members from MoEYS and committed lecturers/officers of the first batch of HEIs selected for the implementation. This team is the core driving force that is responsible for developing and implementing the framework and guiding institutional teams at HEIs to develop and implement their guidelines and playbooks to modernise their potential academic programmes in the initial stage. The initiative will eventually be expanded to other programmes based on the HEIs' capacity and resources.

6.1.3 Target Number of HEIs for Academic Programme Modernisation Based on FEF

For short and long-term goals in implementing FEF, MoEYS has determined three development phases. At the beginning phase, MoEYS has worked closely with five public HEIs to pilot academic programme modernisation that are fully aligned with FEF (one academic programme from each HEI) by 2024. Based on the experience and lessons gained from the five HEIs, MoEYS will increase its target to at least 20 HEIs by 2030 based on an action plan to guide sub-sector development 2025-2030. In the third phase, HEIs under MoEYS will apply the FEF towards system-wide implementation to modernise all academic programmes by 2035.

6.2 Institutional Policy Development

6.2.1 Academic Programme Selection for Modernisation Based on FEF

Based on FEF and associated guidelines and playbooks developed at the MoEYS level, each HEI selects at least one potential academic programme for modernisation as a pilot project. The implementation of programme modernisation helps HEIs prepare their programmes for recognition or accreditation from regional agencies including AUN-QA.

6.2.2 Institutional Team Establishment

To modernise the selected academic programme, each HEI needs to form its own institutional technical team which consists of at least five members per programme and other relevant officers and institutional managers under technical guidance and support from the central technical team. The institutional team of each HEI is responsible for developing their detailed guidelines and playbooks for Programme Development and Delivery, which include institutional playbooks on transformative curriculum development, innovative pedagogy and holistic assessment.

6.2.3 Academic Programme Modernisation Expansion

Upon successful modernisation and implementation of one selected academic programme, the institutional team of each HEI will become experts in guiding and supporting the modernisation of other academic programmes within their respective HEIs. Therefore, the gradual expansion of academic programme modernisation will move towards institution-wide implementation. Committed, competent individuals can also become key agents to support other HEIs to transform their programmes too.

To embark on the implementation of the framework, guidelines and playbooks, continuous capacity development of the institution teams is needed to enhance their knowledge/fill their capacity gaps for the complete cycle of programme development and delivery and the overall process of OBE implementation. This can be in the form of on-the-job coaching, training/workshops, and technical guidance and support from national and international experts on the design, delivery and further improvement of academic programmes. These capacity development modalities will be conducted as an on-going process throughout the whole process of the programme modernisation and implementation.

6.3 Collaboration with Industry and Community

Strong and active collaboration between HEIs with the industry and community plays an important role in the whole process of development/revision, implementation and assessment of improved academic programmes to produce holistic and future ready graduates. Industry involvement in designing the programmes is needed in identifying courses and skill requirements to be included in the programmes in order to produce competent graduates. Community engagement is also needed in the process of programme implementation where

students and lecturers can apply the knowledge gained in the real field and it also enables students to have professional opportunities, address real world challenges, and drive innovation as well as translate their theories learnt into actual working environments.

7. CONCLUSION

Since the Cambodia Qualification Framework only provides a generic guideline to curriculum development and as to ensure continuous quality enhancement, it was recommended that CQI should be a mechanism to enhance quality and relevance of the programmes to the needs of the stakeholders and produce human capital for the labour market demand to achieve the Pentagonal Strategy. This requires MoEYS to develop an OBE academic programme development framework to guide the programme design, development, and delivery at the HEIs. The framework does not only help support the academic programmes to modernise themselves to meet the national minimum standards but also prepare them for regional and international programme quality recognition and accreditation, including by the ASEAN University Network (AUN).

The FutureFit Educational Framework is the framework that guides academic programme development to produce graduates who fit the future challenges, however uncertain the challenges may be, so as to realise Cambodia Vision 2030 and 2050. The framework is conceptualised as a multi-tiered, cyclic structure comprising five interconnected layers: the core components, the elements of the core components, the enablers and drivers, the designs of programme, and the graduates' attributes or skill sets. To guide effective implementation, the framework also discusses the transformative curriculum development process flow, quality assurance, the opportunities and impacts of academic programme modernisation. The document concludes the policy recommendations for not only the national level but also for institutions and for the collaborations with industry and the community to achieve the aims of the framework.

7.1 Future Directions of Cambodian Higher Education

To ensure the effective and sustainable implementation of the FutureFit Educational Framework and the associated guidelines and playbooks, the framework, guidelines and playbooks are living documents that will be continuously adjusted and improved based on lessons learned from the implementation with the five academic programmes at the five target HEIs. The framework will be subjected to further revision and update to fit the needs of the academic programme modernisation and development of the country.

With that living document, the next phase of the implementation of the FutureFit Educational Framework in Cambodian higher education is to expand the modernisation to other academic programmes at the five target HEIs and programmes of other HEIs in the next five years. The implementation will be through regulatory requirements and the provision of potential support for programme modernisation. The modernisation of the academic programmes will be a

complete cycle, starting from transformative curriculum to innovative pedagogy, and holistic assessment. The key principle of the implementation is employing the PDCA and CQI.

To ensure the effectiveness of the academic programme modernisation, the modernised programmes will be subjected to programme quality assessment using the national minimum standard. From the CQI, the programmes will be subjected to regional programme assessment for quality recognition by AUN-QA or other international accreditation bodies. The full spectrum of this academic programme modernisation using the FutureFit Educational Framework will contribute to producing the human capital to realise Cambodian Vision 2030 and 2050.

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9. APPENDIX

ព្រះរាជាណាចក្រកម្ពុជា
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លិខិតឧទ្ទេសនាម

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៦.	ឯកឧត្តមបណ្ឌិត	ង៉ោ	ប៊ុនថាន	សាកលវិទ្យាធិការ សាកលវិទ្យាល័យភូមិន្ទកសិកម្ម	សមាជិក
៧.	ឯកឧត្តម	សុខ	ឃន	សាកលវិទ្យាធិការ សាកលវិទ្យាល័យជាតិបាត់ដំបង	សមាជិក
៩.	ឯកឧត្តម	ទុំ	សារ៉ុង	សាកលវិទ្យាធិការ សាកលវិទ្យាល័យស្វាយរៀង	សមាជិក
១០.	លោកបណ្ឌិត	និត	ប៊ុនឡៃ	អគ្គនាយករង អគ្គនាយកដ្ឋានឧត្តមសិក្សា	សមាជិក
១១.	លោក	យូ	រីរ៉ះ	អគ្គនាយករង អគ្គនាយកដ្ឋានឧត្តមសិក្សា	សមាជិក
១២.	លោក	គង់	ភូមីកា	ប្រធាននាយកដ្ឋានគ្រប់គ្រងឧត្តមសិក្សា	សមាជិក
១៣.	លោកបណ្ឌិត	ហេង	គ្រែង	ប្រធាននាយកដ្ឋានស្រាវជ្រាវនិងនវានុវត្តន៍	សមាជិក

គណៈកម្មការដឹកនាំ មានតួនាទី និងភារកិច្ច ដូចខាងក្រោម ៖

- ដឹកនាំ និងគ្រប់គ្រងដំណើរការរៀបចំក្របខ័ណ្ឌអប់រំអនាគតផល និងគោលការណ៍ណែនាំ
- ពិនិត្យ និងផ្តល់យោបល់លើការរៀបចំក្របខ័ណ្ឌអប់រំអនាគតផល និងគោលការណ៍ណែនាំ

1

អាសយដ្ឋានលេខ៨០ មហាវិថី ព្រះនរោត្តម ភ្នំពេញ កម្ពុជា ទូរស័ព្ទ: (៨៥៥-២៣) ២២០ ៦៧៣ / ២២០ ៣០៤ ទូរសារ: (៨៥៥-២៣) ២១៧ ២៥០ / ២១២ ៥១២
អ៊ីមែល: info@moeys.gov.kh / administration@moeys.gov.kh គេហទំព័រ : www.moeys.gov.kh

- ផ្តល់ការគាំទ្រដល់គ្រឹះស្ថានឧត្តមសិក្សាសម្រាប់ធ្វើទំនើបកម្មកម្មវិធីអប់រំស្របតាមក្របខណ្ឌអប់រំអនាគតផលសម្រាប់ការអប់រំផ្តែកលើលទ្ធផលនៅឧត្តមសិក្សាកម្ពុជា
- សមាជិក សមាជិកា ចូលរួមប្រជុំតាមការអញ្ជើញរបស់ឯកឧត្តមប្រធាន។

ខ. គណៈកម្មការបច្ចេកទេស

១.	ឯកឧត្តម	ម៉ក់	ងយ	អគ្គនាយកនៃអគ្គនាយកដ្ឋានឧត្តមសិក្សា	ប្រធាន
២.	លោកបណ្ឌិត	កៅ	សុវណ្ណសុផល	ប្រធានការិ. នា.គ្រប់គ្រងឧត្តមសិក្សា	អនុប្រធាន
៣.	លោកបណ្ឌិត	ហេង	គ្រែង	ប្រធាននាយកដ្ឋានស្រាវជ្រាវនិងនវានុវត្តន៍	សមាជិក
៤.	លោកបណ្ឌិត	ជ័យ	ចាន់អឿន	ព្រឹទ្ធបុរសរង សាកលវិទ្យាល័យភូមិន្ទភ្នំពេញ	សមាជិក
៥.	លោកបណ្ឌិត	អោម	សុខជា	ប្រធានដេប៉ាតឺម៉ង់ វិ.បច្ចេកវិទ្យាកម្ពុជា	សមាជិក
៦.	លោកស្រីបណ្ឌិត	ចែម	មួយលីន	មន្ត្រី សាកលវិទ្យាល័យភូមិន្ទកសិកម្ម	សមាជិក
៧.	លោកបណ្ឌិត	សុក	សាយ	ទីប្រឹក្សាបច្ចេកទេសគម្រោងHEIP	ទីប្រឹក្សា
៨.	Prof. Dr.	Aida	Suraya Md. Yunus	អ្នកជំនាញការអន្តរជាតិផ្នែកOBE	ទីប្រឹក្សា
៩.	Prof. Dr.	Wan	Zuhainis Saad	អ្នកជំនាញការអន្តរជាតិផ្នែកOBE	ទីប្រឹក្សា

គណៈកម្មការបច្ចេកទេស មានអនុគណៈកម្មការបួនគឺ៖ អនុគណៈកម្មការរៀបចំក្របខ័ណ្ឌអប់រំអនាគតផលសម្រាប់ការអប់រំផ្តែកលើលទ្ធផលនៅឧត្តមសិក្សាកម្ពុជា (FutureFit Educational Framework for Outcome-Based Education in Cambodian Higher Education) អនុគណៈកម្មការរៀបចំគោលការណ៍ណែនាំស្តីពីកម្មវិធីសិក្សាបរិវត្តន៍ (Guideline on Transformative Curriculum) អនុគណៈកម្មការរៀបចំគោលការណ៍ណែនាំស្តីពីគរុកោសល្យនវានុវត្តន៍ (Guideline on Innovative Pedagogy) និង អនុគណៈកម្មការរៀបចំគោលការណ៍ណែនាំស្តីពីសមាហរណកម្មលទ្ធផលសិក្សា (Guideline on Holistic Assessment)។

ខ.១. អនុគណៈកម្មការរៀបចំក្របខ័ណ្ឌអប់រំអនាគតផលសម្រាប់ការអប់រំផ្តែកលើលទ្ធផល

១.	លោកបណ្ឌិត	កៅ	សុវណ្ណសុផល	ប្រធានការិ. នា.គ្រប់គ្រងឧត្តមសិក្សា	ប្រធាន
២.	លោក	សួយ	ទី	នាយករង វិទ្យាស្ថានបច្ចេកវិទ្យាកម្ពុជា	សហប្រធាន
៣.	លោក	ប៉ាល់	ដែស	សាកលវិទ្យាធិការរង សា.ភូមិន្ទភ្នំពេញ	សមាជិក
៤.	លោកស្រីបណ្ឌិត	សេង	មុំ	សាកលវិទ្យាធិការរង សា.ភូមិន្ទកសិកម្ម	សមាជិក
៥.	លោក	ឡឹក	វីរៈ	សាកលវិទ្យាធិការរង សា.ស្វាយរៀង	សមាជិក
៦.	លោក	ទេព	នារ៉ា	សាកលវិទ្យាធិការរងសា.ជាតិបាត់ដំបង	សមាជិក

ខ.២. អនុគណៈកម្មការរៀបចំគោលការណ៍ណែនាំស្តីពីកម្មវិធីសិក្សាបរិវត្តន៍

១.	លោក	ជូវ	ចាន់ណាឫទ្ធ	មន្ត្រីនាយកដ្ឋានគ្រប់គ្រងឧត្តមសិក្សា	ប្រធាន
២.	លោកបណ្ឌិត	អោម	សុខជា	ប្រធានដេប៉ាតឺម៉ង់ វិ.បច្ចេកវិទ្យាកម្ពុជា	សហប្រធាន
៣.	លោកបណ្ឌិត	ឃុន	គឹមលាង	ប្រធានដេប៉ាតឺម៉ង់ សា.ភូមិន្ទភ្នំពេញ	សមាជិក
៤.	លោក	រៀន	រដ្ឋា	អនុប្រធានដេប៉ាតឺម៉ង់ សា.ជាតិបាត់ដំបង	សមាជិក
៥.	កញ្ញា	ហ៊ាន	និមល	មន្ត្រីនាយកដ្ឋានគ្រប់គ្រងឧត្តមសិក្សា	សមាជិក

៦.	លោកស្រីបណ្ឌិត	ចែម	មួយលីន	មន្ត្រី សាកលវិទ្យាល័យកូមិន្ទកសិកម្ម	សមាជិក
៧.	លោក	ម៉ម	ឧត្តរ	គ្រូបង្រៀនសាកលវិទ្យាល័យស្វាយរៀង	សមាជិក
៨.	កញ្ញា	ឡូ	ស្រីង៉ែត	មន្ត្រី សាកលវិទ្យាល័យជាតិបាត់ដំបង	សមាជិក
៩.	កញ្ញាបណ្ឌិត	អោម	សុខា	ជំនួយការបច្ចេកទេសគម្រោងHEIP	សមាជិក

ខ.៣. អនុគណៈកម្មការរៀបចំគោលការណ៍ណែនាំស្តីពីតម្រូវការសិក្សាទូទៅ

១.	លោកស្រី	ហួយ	សុច័ន្ទ	អនុប្រធានការិ.នា.គ្រប់គ្រងឧត្តមសិក្សា	ប្រធាន
២.	លោកបណ្ឌិត	ស្រ៊ាន	ពៅ	ព្រឹទ្ធបុរស សាកលវិទ្យាល័យជាតិបាត់ដំបង	សហប្រធាន
៣.	លោក	គង់	ថុង	ព្រឹទ្ធបុរស សាកលវិទ្យាល័យកូមិន្ទកសិកម្ម	សមាជិក
៤.	លោកស្រីបណ្ឌិត	ប៊ិច	សុភាព	ព្រឹទ្ធបុរសរង វិទ្យាស្ថានបច្ចេកវិទ្យាកម្ពុជា	សមាជិក
៥.	លោកបណ្ឌិត	ជា	ស៊ីណាត	អនុប្រធានការិ. នា.ស្រាវជ្រាវនិងនវានុវត្តន៍	សមាជិក
៦.	លោក	ជុំ	កុសល្យ	សាស្ត្រាចារ្យ វិទ្យាស្ថានបច្ចេកវិទ្យាកម្ពុជា	សមាជិក
៧.	លោកបណ្ឌិត	ស្រ៊ុយ	ថាវិទ្ធ	គ្រូបង្រៀនសាកលវិទ្យាល័យកូមិន្ទភ្នំពេញ	សមាជិក
៨.	លោកបណ្ឌិត	ខឹមកុន	ស៊ុនលី	គ្រូបង្រៀន សាកលវិទ្យាល័យកូមិន្ទភ្នំពេញ	សមាជិក
៩.	លោក	ជួន	កក្កី	គ្រូបង្រៀន សាកលវិទ្យាល័យស្វាយរៀង	សមាជិក
១០.	លោក	ជុំ	ម៉ានិត	គ្រូបង្រៀន សាកលវិទ្យាល័យស្វាយរៀង	សមាជិក
១១.	លោក	ឌឹម	កាណាន់	គ្រូបង្រៀន សា.កូមិន្ទកសិកម្ម	សមាជិក
១២.	កញ្ញា	ឡុង	ស្រីពៅ	គ្រូបង្រៀន សា.កូមិន្ទកសិកម្ម	សមាជិក

ខ.៤. អនុគណៈកម្មការរៀបចំគោលការណ៍ណែនាំស្តីពីសមាហរណកម្មនិងផលសិក្សា

១.	កញ្ញា	ប៊ុនរី	រីនណា	ប្រធានការិ. នា.គ្រប់គ្រងឧត្តមសិក្សា	ប្រធាន
២.	លោកបណ្ឌិត	ជ័យ	ចាន់អឿន	ព្រឹទ្ធបុរសរង សាកលវិទ្យាល័យកូមិន្ទភ្នំពេញ	សហប្រធាន
៣.	លោកបណ្ឌិត	ជ្រិន	ផុក	ប្រធានដេប៉ាតឺម៉ង់ វិ.បច្ចេកវិទ្យាកម្ពុជា	សមាជិក
៤.	លោក	ហែម	សុន្ទរវឌ្ឍន៍	ប្រធានដេប៉ាតឺម៉ង់ សា.ស្វាយរៀង	សមាជិក
៥.	កញ្ញា	ហ៊ុន	ស៊ីយ៉ា	ប្រធានដេប៉ាតឺម៉ង់ សា.ជាតិបាត់ដំបង	សមាជិក
៦.	លោក	លឹម	ពីង	គ្រូបង្រៀនវិទ្យាស្ថានបច្ចេកវិទ្យាកម្ពុជា	សមាជិក
៧.	លោកស្រី	លី	ផាន់ណា	មន្ត្រី សាកលវិទ្យាល័យកូមិន្ទកសិកម្ម	សមាជិក
៨.	កញ្ញាបណ្ឌិត	ហោ	រ័ត្នណា	មន្ត្រី សាកលវិទ្យាល័យកូមិន្ទកសិកម្ម	សមាជិក

គណៈកម្មការបច្ចេកទេសមានតួនាទី និងការកិច្ចដូចខាងក្រោម៖

- រៀបចំសេចក្តីព្រាងក្របខ័ណ្ឌអប់រំអនាគតផល និងគោលការណ៍ណែនាំជាក់ជូនគណៈកម្មការដឹកនាំពិនិត្យ និងផ្តល់យោបល់ដើម្បីគោរពស្នើសុំ ឯកឧត្តមបណ្ឌិតសភាចារ្យឧបនាយករដ្ឋមន្ត្រី រដ្ឋមន្ត្រីក្រសួងអប់រំ យុវជន និងកីឡា ពិនិត្យ និងសម្រេច
- ផ្តល់ការគាំទ្របច្ចេកទេសដល់គ្រឹះស្ថានឧត្តមសិក្សាដើម្បីធ្វើទំនើបកម្មកម្មវិធីអប់រំឱ្យស្របតាមក្របខ័ណ្ឌអប់រំអនាគតផលសម្រាប់ការអប់រំផ្អែកលើលទ្ធផលសម្រាប់ឧត្តមសិក្សាកម្ពុជា

- សមាជិក សមាជិកា ចូលរួមប្រជុំតាមការអញ្ជើញរបស់ឯកឧត្តមប្រធាន។

គ. ក្រុមការងារលេខាធិការដ្ឋាន

១.	លោកបណ្ឌិត	កៅ	សុវណ្ណសុផល	ប្រធានការិ. នា.គ្រប់គ្រងឧត្តមសិក្សា	ប្រធាន
២.	លោកបណ្ឌិត	ជា	ស៊ីណាត	អនុប្រធានការិ. នា.ស្រាវជ្រាវនិងនវានុវត្តន៍	អនុប្រធាន
៣.	កញ្ញា	ប៊ុនរី	រីនណា	ប្រធានការិ. ន.គ្រប់គ្រងឧត្តមសិក្សា	សមាជិក
៤.	លោកស្រី	ហួយ	សុច័ន្ទ	អនុប្រធានការិ. នា.គ្រប់គ្រងឧត្តមសិក្សា	សមាជិក
៥.	លោក	ជួរ	ចាន់ណាវិទ្ធ	មន្ត្រី នា.គ្រប់គ្រងឧត្តមសិក្សា	សមាជិក
៦.	លោក	កក្តី	ចាន់តេនៈ	មន្ត្រី នា.គ្រប់គ្រងឧត្តមសិក្សា	លេខាធិការ
៧.	លោក	សាមឿន	កិត្យា	មន្ត្រី នា.គ្រប់គ្រងឧត្តមសិក្សា	លេខាធិការ
៨.	លោក	គឹម	ឈឿន	មន្ត្រី នា.គ្រប់គ្រងឧត្តមសិក្សា	លេខាធិការ

ក្រុមការងារលេខាធិការដ្ឋានមានតួនាទី និងភារកិច្ចដូចខាងក្រោម៖

- រៀបចំសេចក្តីព្រាងក្របខ័ណ្ឌការងារ និងឯកសារគាំទ្រ
- រៀបចំ និងសម្របសម្រួលកិច្ចប្រជុំគណៈកម្មការបច្ចេកទេស និងគណៈកម្មការដឹកនាំ
- រៀបចំសិក្ខាសាលាដើម្បីប្រមូលធាតុចូលសម្រាប់សរសេរក្របខ័ណ្ឌអប់រំអនាគតផល និងគោលការណ៍ណែនាំ
- ផ្តល់ការគាំទ្ររដ្ឋបាលសម្រាប់ដំណើរការរៀបចំក្របខ័ណ្ឌអប់រំអនាគតផល និងគោលការណ៍ណែនាំ
- សមាជិក សមាជិកា ចូលរួមប្រជុំតាមការអញ្ជើញរបស់ឯកឧត្តមប្រធាន។

សមាសភាពគណៈកម្មការដឹកនាំ គណៈកម្មការបច្ចេកទេស និង ក្រុមការងារលេខាធិការដ្ឋាន ដូចមានរាយនាមខាងលើត្រូវអនុវត្តការងារតាមការចាត់តាំងខាងលើឱ្យមានប្រសិទ្ធភាពខ្ពស់។

ថ្ងៃ ... ខែ ... ឆ្នាំរោង ឆស័ក ព.ស.២៥៦៨
រាជធានីភ្នំពេញ ថ្ងៃទី ០៦ ខែសីហា ឆ្នាំ២០២៤

ឧបនាយករដ្ឋមន្ត្រី
រដ្ឋមន្ត្រីក្រសួងអប់រំ យុវជន និងកីឡា

បណ្ឌិតសភាចារ្យ ហង់ជួន ណារ៉ុន

ចម្លងជូន៖
- អគ្គលេខាធិការដ្ឋាន
- អគ្គនាយកដ្ឋានឧត្តមសិក្សា
- ឧទ្ធកាល័យឯកឧត្តមបណ្ឌិតសភាចារ្យឧបនាយករដ្ឋមន្ត្រី
- គ្រឹៈស្ថានឧត្តមសិក្សាគោលដៅ
  «ដើម្បីជូនជ្រាបជាព័ត៌មាន»
- សាមីជន «ដើម្បីអនុវត្ត»
- កាលប្បវត្តិ
- ឯកសារ នាយកដ្ឋានគ្រប់គ្រងឧត្តមសិក្សា

10. GLOSSARY

The following terms might be interpreted differently in different contexts. Thus, the terms are defined as follows in the context of FEF-for-OBE.

CDIO (Conceive-Design-Implement-Operate):
A progressive educational framework that equips students with practical skills and knowledge, emphasising real-world systems and products, is crucial for applied fields like engineering.

CLO (Course Learning Outcome):
Statement that describes the specific and general knowledge, skills, attitude and abilities that the students should demonstrate upon the completion of the course.

Community Resilience:
One of the designs of programme that integrates learning with community development, encouraging students to apply their knowledge to real-life challenges.

Constructive Alignment:
"Constructive" refers to the idea that students construct meaning through relevant learning activities. "Alignment" refers to the situation when teaching and learning activities, and assessment tasks, are aligned to the Learning Outcomes (LOs). Thus, constructive alignment is a key principle of OBE that focuses on aligning learning activities and assessment tasks with the intended learning outcomes

CQI (Continuous Quality Improvement):
A quality development process that fosters an environment dedicated to continuous enhancement of quality, ensuring education standards keep pace with evolving needs.

Educational Philosophy:
A set of shared related beliefs (behind every school and every teacher) that influences what and how students are taught. It represents answers to questions about the purpose of schooling, a teacher's role, and what should be taught and by what methods.

Entrepreneurial Graduates:
FEF-for-OBE graduate attribute that focuses on the drive and innovation to identify opportunities, generate solutions, and navigate uncertainties.

FutureFit Educational Framework:
FutureFit is a term coined to refer to graduates who are prepared to embrace the future challenges, however uncertain the challenges may be. The FutureFit Educational Framework (FEF) is conceptualised as a multi-tiered, cyclic structure comprising five interconnected layers: the core components, the elements of the core components, the enablers and drivers, the design of programme, and the graduates' attributes or skill set.

Graduate Attributes:
The qualities, skills and understandings a university community agrees its students would desirably develop during their time at the institution and, consequently, shape the contribution they are able to make to their profession and as a citizen.

Holistic Graduates:
FEF-for-OBE graduate attribute that focuses on balancing technical expertise with an understanding of ethical, social, and global issues

Industry Driven:
One of the designs of programme that builds partnerships with industry stakeholders to provide practical experiences, aligning education with current industry standards.

Learning Outcome:
A specific statement that describes what a learner will be able to do in some measurable way. Often a learning taxonomy is used to write a learning outcome. An effective learning outcome statement begins with an active verb (doing), the object (KSA) of the verb followed by a phrase that gives the context (conditions of the performance).

PDCA (Plan-Do-Check-Act):
A principle, a way of thinking, and a framework that provides a systematic approach to problem solving and quality improvement.

PEO (Programme Educational Objective) Attainment:
The measuring of the level of achievement of the described career and professional accomplishments that a programme aimed to achieve within a certain timeframe (usually 3-5 years).

PEO (Programme Educational Objective):
The long-term outcome statement that describes the career and professional accomplishments that a study programme aims to achieve within a certain timeframe (usually 5 years). It should be aligned with the stakeholders' needs and institutional aspirations as well as be relevant to the career development and profession of the graduates.

Personalised:
One of the designs of programme that offers customised educational pathways, allowing students to align their learning with personal interests and career aspirations.

PLO (Programme Learning Outcome):
Statement that describes the specific and general knowledge, skills, attitude and abilities that the programme graduates should demonstrate upon graduation. The graduates are expected to acquire the outcomes upon completion of all the courses in their programme.

Research Infused:
One of the designs of programme that encourages engagement in research projects deepens understanding of the field and fostering critical thinking.

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