QUESTIONNAIRE SURVEY FORM
CURRICULUM STRUCTURE, PROGRAMME OUTCOME (PO) AND PROGRAMME EDUCATIONAL OBJECTIVE (PEO)

FEEDBACK AND VIEWS - INDUSTRY

B. ENG (HONS) ENVIRONMENTAL ENGINEERING / B. ENG (HONS) CIVIL ENGINEERING
SCHOOL OF ENVIRONMENTAL ENGINEERING
UNIVERSITI MALAYSIA PERLIS

PART A : RESPONDENT DETAIL

NAME: _____

JOB POSITION: _____

TEL NUMBER: _____

ORGANIZATION/ COMPANY NAME: _____

ORGANIZATION/ COMPANY STAMP:

_____

PART B : INFORMATION OF SURVEY

This survey is designed to obtain information on the suitability of Environmental Engineering and Civil Engineering Programs of the School of Environmental Engineering, Universiti Malaysia Perlis. The survey is carried out to determine whether these programs meet the criteria required for the industry in these areas. All information is kept strictly confidential and will not be disseminated to the public. Only statistic and general information will be used for the purposes of reporting and program's improvement. For each of the statement below, please indicate the extent of your agreement or disagreement by placing a tick in the appropriate column. Use the spaces provided at the bottom if you have additional opinion/ comments.

PART C: PROGRAM RELEVANCE (REFER APPENDIX 1):

	YES	NO
Theory relevant to current condition		
Courses are offered to contribute to the strength of the program		
Additional course is needed in the program *If the answer is YES, please specify:* _____		
There are courses that are not relevant to the program *If the answer is YES, please specify:* _____		

PART D : PROGRAM CRITERIA (REFER APPENDIX 1)			
	1 ***Entirely***	**2** ***Partially***	**3** ***Not related***
Basic theory			
Current concepts			
ICT applications			
Use of quantitative analysis			
Industry market / Industry relevance			

Use the following scale and tick accordingly. Example √

Scale :

1	Strongly Disagree	2	Disagree	3	Neutral	4	Agree	5	Strongly Agree

PART E : CURRICULUM STRUCTURE (REFER APPENDIX 1):					
Curriculum Structure statements	**SCALE**				
	1	**2**	**3**	**4**	**5**
The curriculum structure covers the breadth of environmental/civil engineering field					
The curriculum structure satisfies the industrial needs					
Most of the subjects are engineering subjects					
The flow from basics to advanced subjects is good					
The curriculum structure is appropriate for Bachelor degree level					

PART F : PROGRAMME OUTCOMES (PO) (REFER APPENDIX 2)					
Programme Outcome Statements *(Program outcomes define the abilities of the student upon the graduation)*	**SCALE**				
	1	**2**	**3**	**4**	**5**
The Program Outcomes are balance between the hard skills and the soft skills					
The Program Outcomes satisfy the industrial needs					
The Program Outcomes can be achieved through the curriculum					
Specific Program Outcomes are well designed for the environmental/civil engineering students					

PART G : PROGRAMME EDUCATIONAL OBJECTIVES (PEO) (REFER APPENDIX 3)					
New Programme Educational Objectives (PEO) Statements	**SCALE**				
	1	**2**	**3**	**4**	**5**
PEO 1 Graduates who have demonstrated career advancement in the field of Environmental/Civil Engineering or related engineering field					
PEO 1 is clearly stated.					
PEO 1 conforms to the ABET definition of a PEO.					
PEO 1 is appropriate for this programme.					
PEO 1 is in alignment with the Vision Statement of the University.					
PEO 1 is in alignment with the Mission Statement of the University.					
PEO 2 Graduates who are involved in a professional body or society					
PEO 2 is clearly stated.					
PEO 2 conforms to the ABET definition of a PEO.					
PEO 2 is appropriate for this programme.					
PEO 2 is in alignment with the Vision Statement of the University.					
PEO 2 is in alignment with the Mission Statement of the University.					
PEO 3 Graduates who pursue life-long learning					
PEO 3 is clearly stated.					
PEO 3 conforms to the ABET definition of a PEO.					
PEO 3 is appropriate for this programme.					
PEO 3 is in alignment with the Vision Statement of the University.					
PEO 3 is in alignment with the Mission Statement of the University.					

PART H: INDUSTRY 4.0

In general, what do you think of our program? Does it suit with the rise of current new digital technology, referred to as Industry 4.0?

PART I : COMMENT AND SUGGESTION

PPKAS STAMP

Date:

APPENDIX 1 (ENV ENG)

BACHELOR OF ENGINEERING (HONORS) (ENVIRONMENTAL ENGINEERING)

	FIRST			SECOND		THIRD			FOURTH	
	I	II		III	IV	V	VI		VII	VIII
	EAT 105/4 Fundamental of Electrical Engineering	EKT 120/4 Computer Programming		EAT 213/4 Fluid Mechanics and Hydraulics	EAT 238/3 Hydrology	EAT 347/4 Mass Transfer **	EAT 342/3 Noise Pollution Engineering		EAT XXX/3 Elective I	EAT XXX/3 Elective II
	EAT 131/4 Environmental Chemistry	EAT 101/4 Basic Ecology		EAT 231/3 Thermodynamics *	EAT 208/3 Environmental Law, Health and Safety	EAT 348/3 Water Supply Engineering	EAT 343/3 Public Health and Occupational Hygiene		EAT465/3 Engineering Project Management	EAT 433/3 Environmental Engineering Design
	EAT 102/4 Mechanics and Material Engineering	EAT 104/4 Fundamental of Chemical Eng Processes		EAT 232/3 Fundamental of Environmental Engineering	EAT 235/3 Geo environmental Engineering	EAT 341/3 Solid and Hazardous Waste Engineering	EAT 344/3 Environmental Management System		EAT461/2 Final Year Project I	EAT 462/4 Final Year Project II
		ECT 112/3 Engineering Skills		EAT 233/3 Environmental Engineering Skills #		EAT 332/3 Environmental Impact Assessment	EAT 303/4 Wastewater Engineering		EAT 441/3 Environmental Remediation	
							EAT 301/4 Air Pollution Engineering			
	EQT 101/3 Engineering Mathematics I	EQT 102/3 Engineering Mathematics II		EQT 203/3 Engineering Mathematics III	EQT 271/3 Engineering Statistics					EUT442/2 Professional Engineers
	UUT 122/2 Skills and Technology in Communication									
	UZW XXX/1 Co-curriculum	UZW XXX/1 Co-curriculum		EUW 224/2 Engineering Entrepreneurship	UVW 312/2 English for Technical Communication	UUW 233/2 Islamic and Asian Civilizations or UUW 237/2 Malaysian Culture[c]	UUW 322/2 Thinking Skills		UUW XXX/2 Option Subject	UUW 235/2 Ethnic Relations
	UVA 111/2 Foundation English[a]	UVW211/2 English for General Purposes[b]			UVW 410/2 University Malay Language	UZW XXX/1 Co-curriculum				
137	18	19		18	16	16	19	4	13	14

TOTAL UNITS FOR GRADUATION IS 137

Elective I: EAT 445/3 Remote Sensing ##, EAT 449/3 Environmental Process Control & Instrumentation, EAT 472/3 Advanced Wastewater Engineering
Elective II: EAT 447/3 Environmental Informatics, EAT 443/3 Built Environment, EAT470/3 Sustainable Energy, EAT471/3 Environmental Risk Assessment

[a]Uncredited, Compulsory to students with MUET band 2 only. This course is prerequisite to UVW211 English for General Purposes.
[b]Compulsory to students with MUET Band 3 or less. This course is prerequisite to UVW312 English for Technical Communication.
UVW 211/2 is equivalent to UUW XXX/2 (Option Subject). 2 units will not be counted for those who took UVW 211/2.
[c] For international students only.

COURSE * IS A PRE-REQUISITE TO COURSE ** AND
COURSE # IS PRE-REQUISITE TO COURSE ##

APPENDIX 1 (CIVIL ENG)

BACHELOR OF ENGINEERING (HONORS) (CIVIL ENGINEERING)

YEAR	FIRST			SECOND		THIRD			FOURTH	
	I	II		III	IV	V	VI		VII	VIII
	EAT 105/4 Fundamental of Electrical Engineering	EKT 120/4 Computer Programming		EAT 251/3 Structural Theory#	**EAT258/3 Building Material Engineering**	**EAT 314/4 Geotechnical Engineering∞∞**	**EAT 360/4 Highway & Transportation Engineering**		EAT 455/3 Industrialized Building System	EAT 451/4 Integrated Project Design
	EAT 102/4 Mechanics and Material Engineering*	**EAT 115/4 Strength of Materials****		**EAT 252/4 Fluid Mechanics Engineering**	EAT 237/3 Water Supply Engineering	EAT 361/3 Reinforced Concrete Structures Design I	EAT 367/3 Steel Structure Design		EAT461/2 Final Year Project I	EAT 462/4 Final Year Project II
	EAT152/2 Engineering Geology	**EAT 112/4 Geomatic Engineering**		**EAT 212/4 Soil Mechanics∞**	EAT 253/3 Structural Analysis I##	EAT 353/3 Structural Analysis II	EAT 363/3 Hydrology & Water Resources Engineering±		EAT XXX/3 Elective I	EAT XXX/3 Elective II
		ECT 112/3 Engineering Skills		**EAT 249/3 Engineering Drawing**	**EAT 259/3 Hydraulics**	**EAT 356/4 Water & Wastewater Engineering**	EAT 362/3 Reinforced Concrete Structures Design I			
						EAT 357/3 Construction Management				
	EQT 101/3 Engineering Mathematics I	EQT 102/3 Engineering Mathematics II		EQT 203/3 Engineering Mathematics III	EQT 271/3 Engineering Statistics					EUT442/2 Professional Engineers
	UUT 122/2 Skills and Technology in Communication									
	UZW XXX/1 Co-curriculum	UZW XXX/1 Co-curriculum				UUW XXX/1 Co-curriculum	UUW 322/2 Thinking Skills		UUW 233/2 Islamic & Asian Civilizations or ***UUW237/2 Malaysian Culture	UUW 235/2 Ethnic Relations
	*UVA 111/2 Foundation English	UUWXXX/2 Option or **UVW 211/2 English for General Purposes			UVW 312/2 English for Technical Communication		UVW 410/2 University Malay Language		UUW 224/2 Engineering Entrepreneurship	
137	16	19		17	17	18	17	4	14	15

TOTAL UNITS FOR GRADUATION IS 137

ELECTIVES COURSES:

Elective I: EAT 412/3 Advanced Reinforced Concrete Structures Design, EAT 456/3 Foundation Engineering, EAT 476/3 Urban Stormwater Management±±

Elective II: EAT 453/3 Advanced Structural Analysis, EAT 477/3 Advanced Steel Design, EAT 475/3 Construction Contract and Law

COURSE* IS A PRE-REQUISITE TO COURSE**
COURSE# IS A PRE-REQUISITE TO COURSE##
COURSE∞ IS A PRE-REQUISITE TO COURSE∞∞
COURSE± IS A PRE-REQUISITE TO COURSE±±

*Uncredited. Compulsory to students with MUET Band 2 only. This course is prerequisite to UVW211 English for General Purposes.
**Compulsory to students with MUET Band 3 or less. This course is a prerequisite to UVW213 English for Technical Communication.
***For international students only.

NEW PROGRAM OUTCOMES (POS) OF ENVIRONMENTAL/CIVIL ENGINEERING:

No	Heading	PROGRAMME OUTCOMES (P/O)
1	**Engineering Knowledge**	Able to apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to the solution of complex engineering problems.
2	**Problem Analysis**	Able to identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3	**Design and Development of Solutions**	Able to design systems, components or processes to meet desired needs. Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4	**Investigation**	Able to conduct investigations of complex problems using research-based knowledge (WK8) and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.
5	**Modern Tool Usage**	Able to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations.
6	**Engineer and Society**	Able to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems.
7	**Environment and Sustainability**	Able to understand and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts.
8	**Ethics**	Able to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
9	**Individual and Team-work**	Ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
10	**Communication**	Ability to communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11	**Lifelong Learning**	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
12	**Project Management and Finance**	Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PROPOSALS FOR THE UPDATED PROGRAMME EDUCATIONAL OBJECTIVES (PEO) FOR BACHELOR OF ENGINEERING (ENVIRONMENTAL ENGINEERING) & (CIVIL ENGINEERING) PROGRAMMES AT THE SCHOOL OF ENVIRONMENTAL ENGINEERING, UNIMAP

As part of our commitment to the continual quality improvement, we have proposed PROGRAMME EDUCATIONAL OBJECTIVES (PEO) for Bachelor of Engineering (Environmental Engineering) & (CIVIL ENGINEERING) programmes at the School of Environmental Engineering at UniMAP. The proposed new PEO takes into consideration the needs of the Programme, School, University, Industry and other stake-holders.

For your information, the definition of the PEO is given below as taken from the Accreditation Board for Science and Technology (ABET):

"Broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve".

For your kind consideration and comment, the table below shows all of the proposed new PEO.

Mission & Vision Statements of **Universiti Malaysia Perlis (UniMAP)**

Vision

An internationally competitive academic and research institution

Mission

To produce a holistic human capital that contributes to the nation's development and industrial competitiveness agenda

Mission & Vision Statements of the **School of Environmental Engineering**

Vision

To support the nation's aspirations in industrial agenda towards environmental sustainability

Mission

An internationally recognized academic program

NEW PROGRAMME EDUCATIONAL OBJECTIVES (PEO) FOR BACHELOR OF ENGINEERING (ENVIRONMENTAL ENGINEERING) & (CIVIL ENGINEERING) PROGRAMMES AT THE SCHOOL OF ENVIRONMENTAL ENGINEERING, UNIMAP

1) To produce graduates who have demonstrated career advancement in the field of Environmental/Civil Engineering or related engineering field
2) To produce graduates who are involved in a professional body or society
3) To produce Graduates who pursue life-long learning