

Thank you for using our ENHANCE Assessment App (ENHANCE App) to evaluate the quality of your graduate engineering programme.

ENHANCE App is a digital tool developed within the project ENHANCE - ENabling Humanitarian Attributes for Nurturing Community-based Engineering (project No: 598502-EPP-1-2018-1-UK-EPPKA2-CBHE-JP 2018-2582/001-001), a 3-year collaborative multi-partner project funded by the Education, Audiovisual and Culture Executive Agency, Erasmus + CBHE action.

If you wish to find out more about ENHANCE, visit our website: warwick.ac.uk/enhance/

Engineering has a pivotal role to play in solving humanitarian challenges, enabling communities to progress towards sustainable development. Because the issues of humanitarianism are not just engineering problems, there is need to introduce new designs of engineering education to embrace and exploit combinational expertise in community-based engineering. ENHANCE aims at nurturing humanitarian attributes through engineering education for serving unsupported communities effectively and responsibly, in identifying problems and defining sustainable solutions. The novelty of ENHANCE lies in integrating highly diverse, yet complementary, expertise in engineering Higher Education.

ENHANCE App aspires to emphasize to Higher Education Institutions, Directors of Programmes and Educators the mandate of developing graduate engineers capable of: (a) providing resilient, sustainable, inclusive and socially responsible solutions to emerging problems, and (b) acting in a manner that is productive and consistent with professional standards.

ENHANCE App is based on research carried out within the ENHANCE project, using information from ENHANCE activities and deliverables alongside general principles of accreditation standards and descriptions of professional engineering frameworks. Detailed information on the ENHANCE research may be found at the following project deliverables:

- ENHANCE State-of-the-art Literature Review on Engineering Education and Pedagogy
- ENHANCE Report on Practice-dialogue Workshops
- ENHANCE Taxonomy of Professional Attributes







Programme Name: Programme Level: Programme Country:

ENHANCE Project

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Civil Engineering Undergraduate Greece

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8	0
MAX	THF
100.0	60.0

# **Overall Comments**

Your score is above the overall average (threshold) for similar programmes. Please find below a set of specific comments with regard to each question.

## **Specific Comments**

#### Question #04: Contact time

Contact time is the amount of time that a student spends learning in contact with teaching or associated staff, when studying on a degree programme. This time provides the students with support in developing their subject knowledge and skills. In engineering subjects, contact time tends to be relatively high due to practical activities involved in the curriculum.

Best practice suggests typical contact time per student per week for a typical year of undergraduate taught engineering programmes between 15 and 20 hours.

Best practice suggests typical contact time per student per week for a typical year of postgraduate taught programmes between 10 and 15 hours. In postgraduate taught programmes a greater emphasis is placed on self-study, featuring less contact time compared to undergraduate taught programmes.

Your programme seems to be providing contact time within the range of best practice for similar programmes. It is recommended that you consider the contact time into more detail depending on whether your programme is undergraduate (15 hours < suggested contact time < 20 hours) or postgraduate (10 hours < suggested contact time < 15 hours).



# Question #05: Self-study time

The breakdown between contact time and self-study time depends on the subject, with contact time being much greater for practical-based subjects such as engineering.

Best practice suggests that for every hour of contact time, undergraduate engineering students should spend approximately 1-2 hours in self-study. The expected self-study time per student per week for a typical year of undergraduate engineering taught programmes is between 20 and 30 hours.

Best practice suggests that for every hour of contact time, postgraduate engineering students should spend approximately 2-3 hours in self-study. The expected self-study time per student per week for a typical year of postgraduate engineering taught programmes is between 25 and 35 hours.

Your programme is expecting self-study that matches the best practice for similar programmes.

## Question #06: Amount of academic teaching

Best practice indicates that an academic year for undergraduate engineering programmes involves between 20 and 25 weeks of teaching with contact time, excluding examination and preparation for examination periods.

The number of weeks of teaching with contact time for postgraduate programmes depends on the study mode (intensive block, full-time, part-time, distance learning etc.). Best practice indicates that an academic year for postgraduate engineering programmes involves between 15 and 20 weeks of teaching with contact time, excluding dissertation, examination and preparation for examination periods.

Your programme offers a number of weeks for teaching with contact time that matches the best practice for similar programmes.



**WEIGHT** 

2.0



#### Question #07: Professional attributes

ENHANCE has identified a number of professional attributes (knowledge, skills and behaviours) to be developed to engineering graduates for tackling complex engineering problems such as global humanitarian challenges. Such professional attributes seem to be expected by Industry and other stakeholders (society, government, quality assurance agencies for accreditation purposes etc.). The ENHANCE Attributes are given below:

ENHA	NCE Attribute	Descriptor	
	Realistic	Able to build upon and extend previous experiences to introduce novel	
a	Applications	and appropriate solutions.	
ğ	Creativity and	Able to generate new ideas and concepts or the development of new	
wle	Innovation	associations between existing ideas or concepts.	
, OU	Problem-solving	Able to state problems clearly; effectively and efficiently evaluate	
×		alternative solutions; choose solutions that maximize positive and	
		minimize negative outcomes.	
	Leadership	Able to inspire individuals and teams to reach their potential by	
		embracing innovation through strategic thinking and shared	
ills		responsibility.	
б	Project	Able to apply knowledge of engineering management principles,	
	Management and	commercial context, project management and relevant legal matters.	
	Decision Making		
	Professionalism	Able to demonstrate a personal commitment to professional and ethical	
		standards, recognising one's obligations to society, the profession and	
		the environment.	
l	Global	Able to demonstrate self-awareness of own identity and culture,	
,io	Responsibility	recognize the interconnectedness of world events and issues; interact	
hav		respectfully and authentically across cultures; value multiple	
Be		perspectives; utilize curiosity to learn with and from others.	
	Learning to Learn	Able to carry out and record the continuing professional development	
		necessary to maintain and enhance knowledge and competence as an	
		engineer.	

Your programme already enables the most needed attributes for your graduate engineers to be able to tackle complex engineering problems such as global humanitarian challenges. No further recommendations.

# SCORE 8 WEIGHT 1.5

Question #08: Cross-cutting themes

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ENHANCE has identified a number of cross-cutting themes (ENHANCE Threads) to be covered throughout engineering curricula alongside other underpinning themes. Within the framework of ENHANCE, the threads have been identified by stakeholders (industry, higher education institutions and quality assurance agencies) as the primary cross-cutting themes to be clearly covered across engineering curricula. The ENHANCE Threads are given below:

ENHANCE Thread	Descriptor
Professionalism and	Cultivating a personal commitment to professional and ethical standards,
Practice	recognising one's obligations to society, the profession and the environment.
Sustainability	Capturing views necessary for acting in ways that contribute to more sustainable patterns of living. Environmental and societal impact of solutions to complex problems (to include the entire lifecycle of a product or process) and minimise adverse impacts.
Community Besponsibility	Developing a sense of community awareness through prioritising local environments and needs, and encouraging student participation in activities offered
	in the local community.

Your programme already covers the ENHANCE Threads. No further recommendations.

### Question #09: Teaching and learning approaches

ENHANCE identified the most effective teaching and learning approaches (ENHANCE Enablers) for the development of desired professional attributes to engineering graduates (see previously ENHANCE Attributes), being:

ENHANCE Enabler	Descriptor	
Problem-based	Learning about a subject through the experience of solving an open-ended	
Learning	problem.	
Interdisciplinary	Teaching and learning which uses links across different subjects or disciplines to	
Teaching and Learning	examine a theme, issue, question or topic.	
Internships and	The arrangement for students to join the work environment for a limited period of	
Industry Placements	time to enable them to acquire professional experience	
Community Service	Unpaid work performed by students for gaining real-world experience as well as	
	providing a service within their community or for those who need it most.	
Project-based Learning	Learning by working for an extended period of time to investigate and respond to	
	an authent <mark>ic, e</mark> ngaging and complex question, problem or challenge.	
Practical Activities	Activities which enable students to develop practical skills such as assembling	
(laboratories/ field	equipment, taking measurements, gathering information, etc.	
work/ site visits etc.)		

Your programme already uses most of the ENHANCE recommended approaches of teaching and learning which are enabling the development of professional attributes to engineering graduates for tackling complex engineering problems i.e. global humanitarian challenges. No further recommendations.





SCORE

6

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#### Question #10: Assessment methods

ENHANCE identified the most effective assessment methods (ENHANCE Assessment Methods) for evidencing that engineering students can demonstrate intended attributes (see previously ENHANCE Attributes). The ENHANCE Assessment Methods are as follows:

ENHANCE	Descriptor
Assessment Method	
Reflection	Writing (journal, logbook, learning diary) offering an opportunity for reflection on
	the student's learning experience. A means of engaging critically and analytically
	with own learning process.
(Group) Portfolio	A purposeful collection of student work that demonstrates the students' efforts,
	progress and achievements across one or more areas, ideally delivered by a
	group of students. Portfolios should include many different forms of evidence of
	attainment: written, posters, artefacts, recordings (video and audio),
	photographs, etc. The individual components of a portfolio may focus on
	particular learning outcomes, whilst the whole should evidence broader
	outcomes and success.
Artefact	An object created by student(s). To be considered a physical artefact, an object
	needs to be lasting, durable and materially present. Artefacts can be in the form
	of models, drawings, prototypes etc.
(Group) Oral	Presentation on a prepared topic, often supported by visual aids, within a given
Presentation	time limit. Presentations are generally followed by a brief question and answer
	session. Presentations capture a student's knowledge and understanding of a
	topic and also a range of cognitive and transferable skills.
Journal Article	A publishable written piece of work demonstrating critical thinking, research,
	creativity and innovation on a specific topic for a defined audience (mostly
	suitable for postgraduate studies).

Your programme already uses most of the ENHANCE Methods of Assessment.

Some further options that you can consider, include:

- -Artefact
- -Group presentation

-Journal article

#### Question #11: Student voice

Student voice is the thoughts, views and opinions of students on their educational journey. ENHANCE identified the most commonly used and effective ways for capturing student voice on the content quality and experience on a Higher Education programme. You may wish to consider deploying some of them – alongside the ones you are already using – for consulting students on their learning experience or debating issues that are affecting a student's learning:

SCORE 9
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1.0

	ing experience of debating issues that are anceting
Student Voice	Recommended Capture Method
	Blogs/forums
	Course/module survey
	External surveys on student satisfaction
	Focus groups
	In-class feedback forms
	Student-staff liaison committees

Your programme already uses most of the recommended methods for capturing the student voice.

No further recommendations.



# Question #12: Programme review

During a programme-level periodical external quality review, areas which require improvement get to be identified, impacting in most of the cases the accreditation (licensing or approval) of the programme. ENHANCE concluded on the most commonly identified problematic areas, along with the recommended areas of focus during periodical review of graduate engineering programmes:

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programi	me. ENHANCE concluded on the most commor
with the	recommended areas of focus during periodi
programr	nes:
Periodic	Programme Review
Problematic areas	Programme and curriculum benchmarking
	Programme intended learning outcomes
	Assessment strategy
	Employability of graduates
	Facilities and resources
	Teaching and learning strategy and methods
	Admission entry requirements
	Community engagement strategy
aas of focus	Connection between teaching and research
	Internationalisation/international partnerships
	Partnership with other HEIs
	Practical training
	QA management systems and structures
An	Research strategy

Few of the areas that you have identified are similar to the findings of ENHANCE project.

Some further options that you can consider, include:

Student retention and cohort analysis

-Connection between teaching and research

- -Partnership with other HEIs
- -Programme intended learning outcomes

Research strategy Staff qualifications Student experience

-QA management systems and structures

-Staff qualifications

-Student experience

-Student retention and cohort analysis



# **Completed Questionnaire**

Submitted by: Guest user

Submitted at: 08-06-2021

## **Questions and Answers**

Name the country where your organisation mainly operates: You answered: Greece

Please give the name of the taught programme you are providing information for: You answered: Civil Engineering

Is the programme for an undergraduate degree or a postgraduate degree? You answered: Undergraduate

Give the average contact time (lectures; tutorials; seminars; laboratory activities; fieldwork etc.) per student per week for a typical year of your programme. You answered:

More than 10 hours and less than 20 hours

Give the expected average self-study time per student per week for a typical year of your programme:

You answered:

More than 20 hours and less than 35 hours

How many weeks of teaching with contact time is included in a typical year of your programme How many weeks of teaching with contact time is included in a typical year of your programme (excluding examination and preparation for examination periods)?

You answered:

More than 15 and less than 25 weeks

Name 3 prevailing attributes (knowledge, skills and behaviours) that your graduate engineers have/will have upon completion of your programme.

You answered: Experience in real-life applications Learning to learn Problem solving skills



#### Name 3 prevailing cross-cutting themes (threads) that your programme is clearly covering. You answered: Professionalism and Practice

Sustainability

Human needs and human rights

Select the 3 most popular teaching and learning approaches deployed for the delivery of your programme. Consider as most popular the approaches applied mostly (in higher percentage) for the delivery of your programme. You answered:

Lectures Internships and industry placements Interdisciplinary teaching and learning

Select the 3 most popular methods of assessment for the delivery of your programme. Consider as most popular the assessment methods applied mostly (in higher percentage) for the delivery of your programme.

You answered: Group portfolio Laboratory report Reflection

In the list below identify which methods your programme mainly uses for capturing the student voice on the content quality and experience on your programme (up to 3 choices).

#### You answered:

Course/module survey External surveys on student satisfaction In-class feedback forms

Name the 3 most problematic areas identified during a programme-level periodical external quality review You answered:

Community engagement strategy Employability of graduates Facilities and resources