
PROFESS 12



Project Report 4

The PROFESS 12 Summer School Toolkit

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Revision status

Revision	Date	Changes made	Revisions made by	Checked by	Issued Date
0.0	23 rd April 2023	Draft Report written up for review and comment	UB		
0.1	9 th May 2023	Reviewed	RH		
0.2	19 th May 2023	Updated to change intercultural event to Majora/ Minora	UB		
0.3	23 rd May 2023	Reviewed by MM	MM		
0.4	24 th May 2023	Updated logistics information in schedule Resolved some previous review comments	RH		
0.5	26 th May 2023	Updated what the students are doing on page 21 to include “Working through a circular design process using the principles of the circular economy”	JMK		
0.6	14 th June 2023	Updated section to align with learnings from summer school	UB		
0.7	19 th June 2023	Updated sections to reflect actual activity: - Preparatory Work (logistical information) - Proposed Overall Schedule -Sessions 5 and 6 (industry site visits)	RH		
0.8	3 rd July 2023	JMK Timetable for the circular economy was revised to remove speaker and allow more time for the workshop. One of the facilitators removed as expert customer to act as dedicated time keeper.	JMK		
0.9	9 th October 2023	Reviewed /proposed changes recorded in Internal Quality Review Form. Minor amendments to this document - very minor edits/typos	RH		
0.91	27 th Oct 2023	Reviewed by MM	MM		
1.0	4 th January 2024	Finalised for issue on website	UB		PDF for website

Project title note:

PROFESS 12 is the acronym for “PROFessional skills for Engineering students - Summer School to achieve SDG 12”. The project aims to develop Professional Skills in Engineering Students through an innovative and inclusive Summer School designed to equip students with the intercultural skills necessary to meet the SDGs.

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Executive Summary

This document forms part of the PROFESS 12 Summer School Toolkit for engineering educators as a component of Work Package 3 in the HEA funded PROFESS 12 (PROFessional skills for Engineering students - Summer School to achieve SDG 12) Project.

This handbook outlines the pedagogical background to the design of the Summer School and describes in detail the components of each session, outlining the aims and objectives, teaching and learning activities and links to resources or templates as required.

Educators are encouraged to provide feedback or additional relevant resources to the project team for inclusion as alternative options.

A student handbook has also been provided in a separate document which forms part of this toolkit.

Summary of Overall Research Project

The main purpose of the PROFESS 12 (PROFessional skills for Engineering students - Summer School to achieve SDG 12) project is to build on the global research work on skills requirements, to translate them to an Ireland-specific framework and to then design, trial and evaluate an innovative and inclusive Summer School to provide students with opportunities to develop these skills. The UNESCO (2017) framework, the Guidelines for the Design of Inclusive Engineering Programmes (Mills, Ayre and Gill, 2010) and the use of the “The Intercultural learning for Pupils and Teachers Toolbox” (<http://intercultural-learning.eu/>) will inspire the design of the School, which will be co-created with students from North and South with a focus on solutions for SDG 12 (Responsible Consumption and Production).

We have *four objectives* in this project:

- To prioritise the professional skills that engineers will need to meet the SDG goals and Government commitments to 2030.
- To compare and contrast stakeholder views on the importance of specific professional skills so that we may learn from each other through our diverse experiences and gender differences.
- To co-create and test an innovative and inclusive Summer School to help students develop the skills necessary to meet SDG 12.
- To better understand each other’s cultural backgrounds and to build mutually beneficial sustainable relationships that capitalise on the intercultural synergies between researchers, academics and students, North and South.

The project consortium has two academic partners (TU Dublin and Ulster University) and the objectives will be achieved through several work packages which are summarised in Figure 1 along with the Project Outputs.

Work Package 1: Literature Review and Professional Skills Survey

First, we will identify engineering students, academics and employers’ perceptions of the professional skills that engineers North and South need to meet the SDGs (WP1). Focusing on the seminal work of Wiek et al., (2011) and UNESCO (2017) coupled with the previous work completed by the project partners in the A-STEP 2030 project, we will review the relevant literature and distil the findings to compile a list of professional skills requirements. We will be mindful of selecting literature from both genders to ensure an unbiased view. We will use this list to create a survey to gather the views of the key stakeholders (employers, academics and students) in engineering education (North and South) to help us prioritise the key skills required.

Work Package 2: Key stakeholder perceptions on priority skills

WP 1 sets the scene for skills requirements on a global scale: WP2 turns our focus to the Island of Ireland. Using the results of the survey, we will compare and contrast stakeholder views based on the local context North and South, the discipline and stakeholder view and also the gender specific perception (WP2). The **key aim of this Work Package** is to learn from each other, hence a detailed analysis of the survey differentiated by key perspectives will help us better understand the perceptions of each group.

Work Package 3: The PROFESS Summer School – Lead: Ulster University (M11-M18)

WP3 will run in parallel with WP2 to meet the key milestones of the project and involves the design and trial of the PROFESS 12 Summer School. Based on the skills identified in WP1 and WP2, we will initially create a Briefing Document for the Summer School (R3 in M11).

The design of the PROFESS 12 Summer School will **be co-created with engineering students** from both Universities in two separate Multiplier Events (ME1 and ME2) in M13. We foresee these as a think tank where students will be encouraged to be creative and outrageous in their ideas surrounding the design of the Summer School.

The Summer School will take place **physically over five days** with a kick off session (in the border region, meeting half way) on 4th March 2023, to coincide with the World Engineering Day for Sustainable Development (Milestone). Students will undertake icebreaker activities, be introduced to the concepts of gender inclusivity, the SDGs, UDL, unconscious bias and the value in developing intercultural skills. We will then spend two days in the North and two days in the South and in addition to student centred classroom activities, we will include cultural trips and activities to help the students integrate.

Work Package 4: Evaluation of the PROFESS Summer School

Finally, the impact of engaging students, researchers and academics in this Summer School will be evaluated in WP4. The evaluation has three aims. Firstly, through both qualitative (discussions) and quantitative measurements the effectiveness of the Summer School from the students' perspective can be assessed. Secondly, students will be asked to reflect on their experiences and to provide feed forward advice for the next iteration of the project at a European scale.

Thirdly, we also wish to acknowledge and reflect on the importance of an all-Ireland project such as this as a way to help collaboration between researchers, academics and HEIs, North and South. Hence we will also investigate how effective the project was in enhancing relationships between researchers and academics and the HEIs involved through the use of a focus group between the researchers involved.

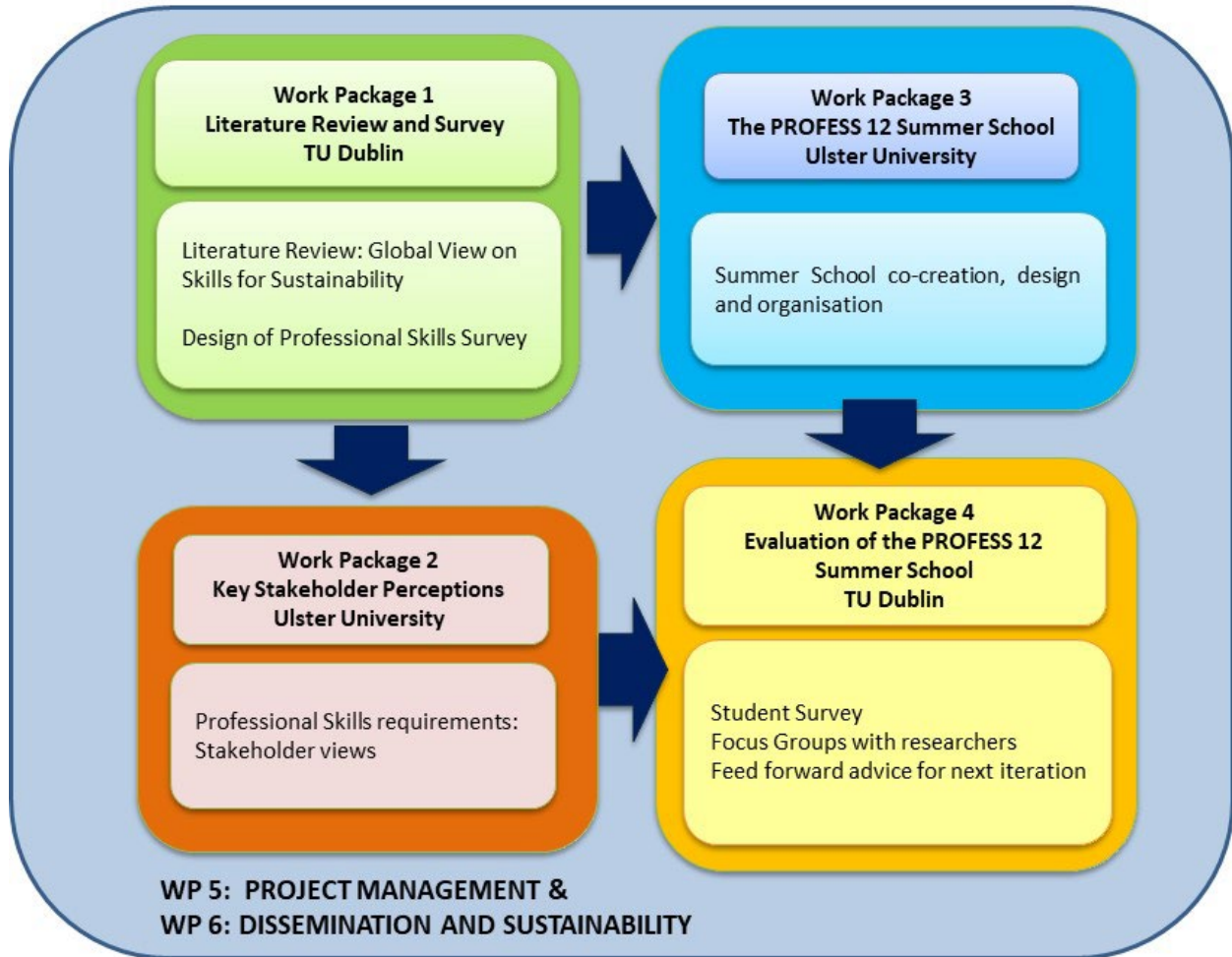


Figure 1: Work packages and Project Outputs in PROFESS 12

In addition to specific outputs from work packages, we also hope to achieve some intangible outcomes such as an improved cultural awareness, better understanding of skills requirements in engineering, implementation of innovative teaching practices, promotion of co-creation of curriculum elements and a better appreciation for the role of gender in research planning, data collection, analysis and dissemination.

Learning Outcomes

The team set out to design a Summer School which would allow students to develop the professional skills necessary to achieve SDG 12 with a particular focus on intercultural skills, as the key aim of this project.

The Summer School has been designed taking into account the following influences:

- Our funding submission which outlined the aims of the Summer School and our commitments to the project.
- Best Practice from Literature, particularly that mentioned in the project submission:
 - The UNESCO (2017) framework,
 - The Guidelines for the Design of Inclusive Engineering Programmes (Mills, Ayre and Gill, 2010)
 - The use of the “The Intercultural learning for Pupils and Teachers Toolbox” (<http://intercultural-learning.eu/>)
- Survey responses to our Skills Survey (what employers, academics and students want)
- Outcomes of two co-creation events held with students on the design of the Summer School. (what students want)
- Best practice in teaching pedagogies appropriate to teach the SDGs
- Analysis of time and cost constraints to Summer School design.

The detailed design of the Summer School is included in Project Report PR3.

As a result of the influences on the design of the Summer School, the learning outcomes are:

1. To explain the SDGs and the principles of sustainable development
2. To describe SDG 12 and the concepts of sustainable consumption and production
3. To appreciate the importance of R&D in developing solutions for carbon neutral transport technologies
4. To apply the concept of the circular economy to an engineering problem
5. To calculate one’s own carbon footprint.
6. To develop skills in oral communication and presentation
7. To collaborate with students from diverse backgrounds
8. To appreciate the similarities and respect the differences in how people from diverse cultures perceive things differently
9. To raise awareness of our reactions in conflict and communication styles

Preparatory Work

Students were invited to apply to attend the free Summer School through email advertisements in TU Dublin and Ulster University by the two academic partners involved in the project. Students completed an application form and were scored on responses to questions on views on sustainability, motivation and personal competencies in relation to making the Summer School a success. Students were then assessed either through their engagement in the co-creation exercises, or in one to one interviews. Selections of students considered gender balance, motivation, discipline and year of study. Ten students from TU Dublin and ten students from Ulster University were selected to attend the Summer School. The project sought to achieve a gender balance (minimum of 40% female and 40% male); we were pleased that six

women were able to participate though this figure did fall short of the target. We will explore lessons in the evaluation to better understand what would encourage and enable greater numbers of women to participate. The Summer School Application Form is included in Appendix A.

Students were provided with a welcome email (Appendix A) and Student Handbook (separate document) one week before the school began. This provided students with information on the schedule, preparatory work beforehand and expected behaviour. The team felt it was appropriate to give only key information at this point to avoid overwhelming the students with detail. Access to the TEAMS drive was only provided when they arrived on site for the first day.

It is also useful to note that some logistical information was also required before the Summer School start. This checklist outlines some aspects to be aware of:

- All participants (staff and students) were required to bring **ID/passport** and **personal credit card** for hotel check in.
- The **nationality** of all participants was required to access some of the cultural events and industry site visits.
- **Dietary requirements** were requested from all participants in advance to ensure that restaurants/university caterers had sufficient notice to ensure everyone was facilitated.
- Students were advised that during restaurant visits, food was provided, but **drinks were at their own expense**.
- **PPE** was required for one of the industry site visits; this was organised by the University.
- Temporary **visitor passes** were requested for participants to allow physical access to the university they were visiting.
- **Computer logins** were requested to enable students to access the MS Teams Collaborative Workspace and to use laptops/computers in the university which they were visiting..

Collaborative Workspace

The team set up a Collaborative Workspace before the event so that each team member could upload pre-reading material and resources. Worksheets and documentation that was required for each activity was also provided within separate folders. Access is limited so that students only have access to Summer School material, not the Project Management information on the TEAMS drive.

The Summer School Channel allowed students to access, work on and upload progress in each session and was available to all hosts and students within that group to work on and review.

Information was provided two weeks before the Summer School to give students an opportunity to undertake pre-reading before the formative event. This also included an introductory video, and written documentation in line with UDL principles.

The folder structure of the Collaborative workspace was set up as follows:

- Session 1: General Information and Welcome
 - Welcome Video
 - Schedule
 - Code of Conduct

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Student list
Background on PROFESS 12 Project

Session 2: Sustainable Development and the SDGs

Instructions for Session
Background Reading
Group A
Group B....etc

Session 3: Circular Economy and Personal Impact

Instructions for Session
Background Reading
Activity Work Sheets
Group A
Group B.... etc

Session 4: Developing Intercultural Skills

Instructions for Session
Background Reading
Activity Work Sheets
Group A
Group B.... etc

.....

Proposed Overall Schedule

The Summer School is hosted over 5 days with travel on the first morning, third morning and last afternoon, therefore there are a total of 8 sessions with the first session on the first morning being a short introduction. Each session was designed to address a particular topic in order to achieve the project aims and these are described in more detail in Project Report 3 which describes the process of the design of the Summer School and influences which created each activity.

The Overall Schedule and aims of each session are indicated in Table 1.

Table 1: Overall Session Schedule of Summer School

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	<p>TRAVEL UU students leave at 9.30am, UU Frederick Street entrance and travel by bus to TU Dublin TU Dublin students arrive at Bolton Street for 12.00</p>	<p>Walk to Breakfast 9.15am @TUDublin canteen Room 380/247 Session 3 (10-12.45) Circular Economy</p>	<p>Check out of hotel Walk to Breakfast 9.15am @TUDublin canteen Travel to Belfast on bus leaving 10am Arrive 12.30pm at UU Room BC-03-203</p>	<p>Breakfast at hotel 9am 10.00am - Introduction to Day (at hotel) Bus at 10.30am to Artemis Technologies Session 6 (11am-12.30pm) Research Led Sustainable Development - Margaret Bus at 12.30pm to UU Room BC-03-203</p>	<p>Check out & Breakfast at hotel 8.30am Bus at 9:30 AM from hotel to UU with bags Room BC-03-203 Session 7 (10am-11am) Personal Impact - Janet Session 8 (11.15-12.30pm) Show and Tell– Una</p>
	LUNCH (12-12.45pm)	LUNCH (12.45-1.30pm)	LUNCH @ UU (12:45-1:30pm)	LUNCH @UU (12:45-1:45pm)	LUNCH@UU (12.30-1.30pm)
Afternoon	<p>Room 380 Session 1 (12.45-2pm) General Information and Welcome Session 2 (2.15 – 4pm) Sustainable Development and the SDGs</p>	<p>Room 380 Session 4 (1.30-4.00) Developing Intercultural Skills Walk to Guinness Storehouse (4.45pm – 6.45pm)</p>	<p>Bus at 1:30PM to Factory Visit Session 5 (2.00-4.45pm) Spirit AeroSystems – Composites Factory visit Bus at 4.45PM to hotel Check in Benedicts Hotel, Belfast 5-6pm</p>	<p>REFLECTION (2.00-2.30pm) Room BC-03-203 Bus at 2.30pm to <u>TITANIC BELFAST</u> (3pm – 5.15pm) Bus at 5.30pm to hotel</p>	<p>TRAVEL by bus back to Dublin @ 1.30pm Arrive back in Dublin approx. 4/5pm</p>
	<p>DINNER (4-5) in Bolton Street Walk to and Check into hotel (5.30-6.30pm) – Bring ID EASY HOTEL DUBLIN</p>	<p>DINNER @ 7.30pm Walk to restaurant</p>	<p>DINNER – 6.30pm Walk to restaurant (5-10 min) Themed evening Scalini, Botanic Avenue</p>	<p>DINNER – 6.30pm Walk to restaurant (10 min) Themed Evening Bo Tree, (University Avenue)</p>	
Evening	<p>Walk to INCOGNITO ESCAPE (7-9pm) Snapping Dublin</p>	<p>Snapping Dublin</p>	<p>Snapping Belfast</p>	<p>Snapping Belfast</p>	

Some activities are described in summary at this point to pre-empt the reading of the next section.

Marshmallow Challenge

The marshmallow challenge is a team based game where students are given materials and 18 minutes to construct the largest free standing tower they can using 20 spaghetti sticks, 1m tape, 1m string and 1 marshmallow. The aim of the game is as an icebreaker to enable students to get to know each other's names. It is a well known game and a powerpoint presentation is provided in the toolkit along with a link to music track which can be played for the 18 minutes. The winning team is provided with a prize. See Figure 2 for materials and example tower.

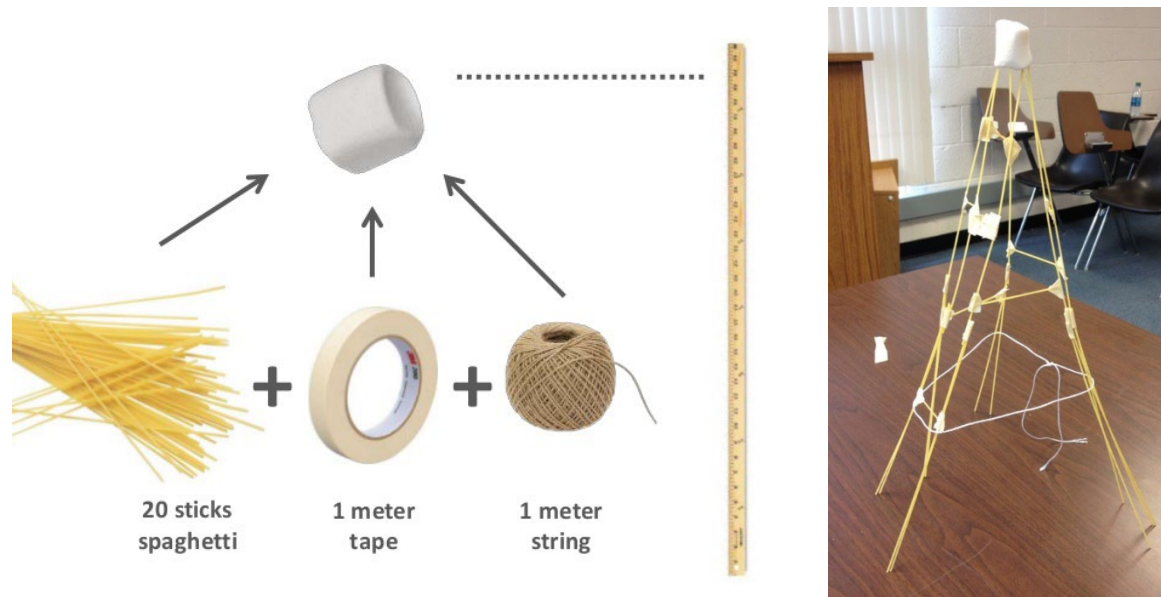


Figure 12: Marshmallow Challenge materials and example tower

Awards

At the beginning of the Summer School, the students were advised that there would be a series of awards and prizes. In the initial presentation we suggested some award titles such as: Most engaged student, Natural Leader Award, Best Team Player, Best Communicator Award and noted that there may be others.

Award winners received an award certificate (see Appendix E) and also a prize such as a seed bomb (<https://kabloom.co.uk/>), an insect hotel (<https://www.thegardenshop.ie/bee-and-insect-hotel/>) and some monetary vouchers. At the end of the week, we were so impressed by the students' engagement that the following awards were announced.

- Creativity, Innovation and Teamwork Award (Winners of Marshmallow Challenge – Session 1, 4 students)
- Sustainable Development Award (Winners of SDG presentation – Session 2, 4 students)
- Circular Economy Award (Winners of Circular Economy Project – Session 3, 4 students)
- Intercultural Award (Most engaged students in Majoria/Minoria workshop – Session 4, 4 students)
- Sustainability Champion Award (4 students)

- Outstanding Communicator Award (2 students)
- Outstanding Team Player Award (2 students)
- Natural Born Leader Award (2 students)
- Most Engaged Student Award (1 student)

All students who engaged in the Summer School were also awarded a completion certificate and a digital badge. Certificate templates are provided in the toolkit (see Appendix E).

Social Media posting

We wished to enhance our impact by disseminating information on the Summer School in several ways. One way was to encourage the participants on the Summer School to use their own platforms (Tik Tok, Instagram etc) to advertise that they were on the Summer School. In order to encourage this, we created social media prize, which was awarded to the best social media post throughout the week. Students were asked to upload screenshots of their social media posts (with the project tagged) to a shared folder on TEAMS and a winner was chosen.

Snapping Belfast and Snapping Dublin

One aim of the project was to encourage students to get to know the students in the other jurisdiction and to explore a new city. In order to encourage them to do this we also created a game called “Snapping Dublin, Snapping Belfast” which encouraged participants to take photos of iconic scenes in each city, and an award was also presented for the best photo for each city.

Detailed description of sessions

Each session is now described in detail along with the aims of each session, pre work required, materials needed and a step by step guide to run the session.

Session 1: Monday 29th May 2023 (12.45pm – 2.00pm)

Session 1: Title	Session 1: General Information and Welcome
Who is responsible for it?	TU Dublin
Who is chair?	Una Beagon
Timekeeper	Ruchita Jani
Attendance	All members of team
Schedule	<p>Purpose of Session :</p> <p>Introductions to the project and expectations.</p> <p>To include topics such as:</p> <ul style="list-style-type: none"> • The project – aims, learning outcomes • Schedule for the week • Expectations of students – Code of conduct • Safety announcements • Signing ethical approval consent forms • Collaborative Workspace <p>AWARDS</p> <ul style="list-style-type: none"> • Most engaged student • Natural Leader Award • Best team player • Best Communicator Award •To be determined <p>Schedule:</p> <p>12.00pm – TU Dublin and Ulster University students arrive and have lunch together</p> <p>12.45pm - 1.30pm - Presentation including topics noted above</p> <p>1.30pm – 2.00pm – Break students into groups (2 x TUD and 2 x UU in each group). Icebreaker – Marshmallow Challenge</p> <p>2.00 – 2.15pm BREAK</p>
Aims / Topics	<p>Aims: to introduce the project and people</p> <p>Introductions (project and people) [interactive]</p> <p>Topics:</p>

	<p>PROFESS 12 (5 minutes) – Provide videos on TEAMS drive</p> <p>Summer School Schedule (5 mins) – provide printout</p> <p>Code of Conduct (1 min)</p> <p>Collaborative Workspace (5 mins)</p> <p>Introduce Snapping Dublin</p> <p>Introduce Social Media posting award</p> <p>Icebreaker – Marshmallow Challenge</p>
Any prework?	<p>No prework for students.</p> <p>Prework for instructors – prepare presentation, organize materials for Marshmallow Challenge, provide sheets for them and us, provide ethical approval documents</p> <p>Add PROFESS 12 powerpoint template, Schedule, Code of Conduct, other material etc. to Collaborative Workspace. Upload video about Profess 12.</p>
Materials	<p>Short presentation of the PROFESS 12 project (This can be a pre-recorded video)</p> <p>Marshmallow Challenge</p> <p>Spaghetti, string, tape, marshmallows</p> <p>You tube link for marshmallow music and countdown clock.</p> <p>Tape measure</p>
What info needs to be provided in Collaborative workspace?	<p>Pre-recorded videos</p> <p>Introduction to MS teams, how to access files/ upload files etc. Add this to student handbook.</p> <p>Code of Conduct</p>
How are we going to do it?	<p>Keep it short, fun, engaging</p>
What are students doing?	<p>Listen to presentation, sign forms</p> <p>Play together in Marshmallow challenge</p>
What is the “innovative” thing we are testing?	<p>Nothing in this session</p>

Facilitation (format) What are the hosts doing, what are the other partners doing?	Facilitators: <ul style="list-style-type: none"> • Brief introductions • Clarifications • Participant tasks • Run marshmallow task
What do students have to output? (A document, complete a work sheet / create an artefact?)	Nothing
Would we evaluate the session?	Evaluation Questions: Microsoft Forms questionnaire one week after Summer School
Will facilitators give feedback on the output? (next day?)	No outputs
Afterwork for students?	None
Prizes	Prize for highest group tower

Session 2: Monday 29th May 2023 (2.15pm – 4pm)

Session 2: Title	Session 2: Sustainable Development and the SDGs
Who is responsible for it?	TU Dublin
Who is chair?	Una Beagon
Timekeeper	Ruchita Jani
Attendance	All members of team
Schedule	<p>Purpose of Session :</p> <p>Introductions to Sustainable Development and SDG 12 .</p> <p>Schedule:</p> <p>2.15pm – 2.30pm – Explain Task. To create a 5 minute presentation on a topic.</p> <p>2.30pm - 3.15pm – Group work on a presentation together</p> <p>3.15pm – 3.45pm – Each group presents out, 5 mins each x 5 = 25 mins</p> <p>3.45 – 4.00 pm – WRAP UP – Review of good things, bad things to look out for in presentations.</p> <p>Students are given the opportunity to receive feedback from their peers. Preprinted sheets were handed out asking for feedback highlighting 3 good things and one thing to work on in the future.</p> <p>These were collected by instructors, checked and then given to the student at the end of the day.</p>
Aims / Topics / Learning outcome addressed	<p>Aims: to introduce students to SD and the SDGs</p> <p>Each student group must investigate, research and prepare a presentation. Each group is given a different topic so we learn from each other. One or two people from each group can present. Instructors give some tips on how to create good presentations. 5 mins = 6-8 slides, keep text limited</p> <p>Topics:</p> <p>What is SD?</p> <p>What are the SDGs?</p> <p>What is SDG 12?</p> <p>How does SDG 12 impact engineering?</p> <p>What is the linear and circular economy and how do they compare?</p>

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	<p>Learning outcomes addressed:</p> <ul style="list-style-type: none"> • To develop skills in oral communication and presentation • To collaborate with students from diverse backgrounds • To explain the SDGs and the principles of sustainable development • To describe SDG 12 and the concepts of sustainable consumption and production
Any prework?	<p>No prework for students.</p> <p>Prework for instructors – provide some useful links on the TEAMS drive</p> <p>Provide a PROFESS 12 presentation template</p> <p>Provide feedback sheets for students</p>
Materials	<p>PROFESS 12 presentation template – ask them to use it for this – quick fire so they don’t waste time creating templates</p> <p>Prepared feedback sheets for students</p> <p>Computer lab to allow students to work on projects jointly.</p>
What info needs to be provided in Collaborative workspace?	<p>Some helpful links – students can use any sources they wish</p> <p>Blank Presentations</p> <p>Students will upload their presentations there.</p>
How are we going to do it?	<p>Short introduction, then over to students. Provide access to computer room.</p>
What are students doing?	<p>Listen to presentation, give feedback to those who want it.</p>
What is the “innovative” thing we are testing?	<p>Problem Based Learning, Active Learning.</p>
Facilitation (format) What are the hosts doing, what are the other partners doing?	<p>Facilitators:</p> <ul style="list-style-type: none"> • Explain the brief • Listen to the presentations
What do students have to output? (A document, complete a work sheet / create an artefact?)	<p>A presentation for each group saved on the TEAMS drive</p>
Would we evaluate the session?	<p>Microsoft Forms questionnaire one week after Summer School</p>

Will facilitators give feedback on the output? (next day?)	No outputs
Afterwork for students?	None
Prizes	Prize for best group presentation

Session 3: Tuesday 30th May 2023 (10.00am – 12.45pm)

Session 3: Title	Session 3: Circular Economy Workshop
Who is responsible for it?	TU Dublin
Who is chair?	Janet Mc Kennedy
Timekeeper	Una Beagon
Attendance	All members of team
Schedule	<p>Purpose of Session : to apply circular economy principles to redesign a product</p> <p>To work collaboratively (A 15 minute break is built into the timetable. After users interviewed, the timetable is flexible e.g they may spend more time on ideation and less on design)</p> <p>10.00 - 10.15 am: Circular design brainstorm and workshop presentation (JMK)</p> <p>10.15 - 10.20 am: Split into 5 groups of 4 people</p> <p>Ask each team to choose a product of their preference (office chair, cosmetics packaging, training shoe, food packaging, kitchen accessories)</p> <p>10.20 - 10.45 am: Explore functional and emotional needs (How do you feel about the products you choose)</p> <p>Interview a user : One facilitator is a time keeper. Other facilitators are expert customers that move between groups after 5 minutes. Take notes in post its as you listen.</p> <p>Understand how they might use the product or service: Ask open-ended questions about your topic such as: What are the best/worst parts about...?</p> <p>Ask about the why: Ask questions such as “Why is that important?” as often as you can.</p> <p>Seek to understand how they live their lives or operate their business: explore potential areas to leverage with new ideas.</p> <p>Share observations in the team and move to insights: Ask ‘what is broken in the experience?’ Ask ‘what they identified as missing from the experience?’</p> <p>10.45 - 11.00 am: Ideate new products or services</p>

	<p>Are there different or better ways to meet these needs by applying circular strategies?</p> <p>Get familiar with the strategies</p> <p>Brainstorm using the Circular Strategy Cards: brainstorm to come up with as many ideas by combining the circular strategy cards.</p> <p>Go for quantity. Try different card combinations.</p> <p>11.00 - 11.15am. Design your solution</p> <p>Pick an idea : that better serves user needs while applying circular principles</p> <p>Describe and illustrate your selected idea: Try to be visual and give it a memorable name.</p> <p>11.15 - 11.30 am Develop your rationale</p> <p>Why is it better for the user? How does it improve the user experience? What are the economical or practical benefits?</p> <p>What makes it circular? Does it increase circularity of materials? Is it regenerative?</p> <p>What systems need to be in place? What feedback or data would be important to have? What infrastructure is needed? Who would you need to collaborate with?</p> <p>11.30 - 12.00 pm Share back</p> <p>Share their final idea and explain why is it better for the user and what makes it circular.</p>
<p>Aims / Topics / Learning outcome addressed</p>	<p>Learning Outcomes Addressed:</p> <ul style="list-style-type: none"> • To apply the concept of the circular economy to an engineering problem • To develop skills in oral communication and presentation • To collaborate with students from diverse backgrounds
<p>Any prework?</p>	<p>No prework for students.</p> <p>All facilitators familiarise themselves with being a “user” for the circular design product (office chair, cosmetics packaging, runner, food packaging, kitchen accessories)</p>

	JMK: Print strategy cards and worksheets Markers
Materials	<ul style="list-style-type: none"> ● Presentation ● 6 Circular strategy cards - A5 print size ● Worksheet - print in A3 or bigger ● Markers or pens ● Flip charts ● Sticky notes
What info needs to be provided in Collaborative workspace?	<p>Strategy cards</p> <p>Presentation</p> <p>Instruction document</p> <p>Worksheet</p>
How are we going to do it?	<p>Circular economy strategies brainstorm/concept map</p> <p>Introductory Presentation (Janet McKennedy)</p> <p>Students interview facilitator “users”</p> <p>Students work on each section using the worksheets and strategy cards.</p> <p>Janet McKennedy to timekeep</p>
What are students doing?	<p>Questioning facilitators/users</p> <p>Collaborating in groups to design their product</p> <p>Working through a circular design process using the principles of the circular economy</p>
What is the “innovative” thing we are testing?	Circular Economy – learning through a design workshop
Facilitation (format) What are the hosts doing, what are the other partners doing?	<p>Acting as “users”</p> <p>Circulating between groups, answering questions and offering suggestions</p>
What do students have to output? (A document,	Complete worksheet

complete a work sheet / create an artefact?)	
Would we evaluate the session?	Yes, Menti was used to ask students questions: What is the circular economy – to gauge their understanding
Will facilitators give feedback on the output? (next day?)	Prize for the best one as determined by facilitators
Afterwork for students?	Direction towards materials on ethical consumption in collaborative space was uploaded for students to view
Afterwork for instructors?	None
Prize	Prize for best group on circular economy project

Session 4: Tuesday 30th May 2023 (1.30pm – 4.00pm)

Session 4: Title	Session 3: Developing Intercultural Skills
Who is responsible for it?	TU Dublin
Who is chair?	Janet Mc Kennedy
Timekeeper	Una Beagon
Attendance	All members of team
Schedule	Purpose of Session: To make participants aware of the importance of intercultural skills.
Aims / Topics / Learning outcome addressed	<p>Aims:</p> <p>Learning outcomes addressed:</p> <ul style="list-style-type: none"> To appreciate the similarities and respect the differences in how people from diverse cultures perceive things differently To raise awareness of our reactions in conflict and communication styles
Any prework?	No prework required of students.
Materials	<p>The session will take place in two parts:</p> <p>Part 1: If the world were 100 people (1.30pm – 1.40pm then feedback at 3.40pm)</p> <p>Part 2: Majoria Minoria Intercultural game (1.40pm – 3.40pm)</p> <p>Part 1: If the world were 100 people</p> <p>The Intercultural learning for Pupils and Teachers Toolbox</p> <p>This tool box was created as a outcome of an Erasmus+ project and includes resources for teachers and students to assist in developing intercultural skills. “The Intercultural learning for Pupils and Teachers Toolbox” (http://intercultural-learning.eu/)</p> <p>Materials for If the world were 100 people</p> <p>Worksheet for each person – included in Appendix</p>

	<p>Answers for each person – show on screen and provide in TEAMS drive</p> <p>Pre-prepared spreadsheet of answers.</p> <p>Part 1a: 1.30pm – 1.40pm</p> <p>Students are split into groups and asked to complete the 100 people questionnaire. 10 mins.</p> <p>Answers are collected and put into a spreadsheet to be displayed on screen at the end of this session (to select winning team).</p> <p>Part 1b: 3.40pm – 4.00pm</p> <p>The students are given the correct answers for 100 people (Shown on screen)</p> <p>Facilitator asks questions and records answers – see detail later</p> <p>Finale - scores shown on screen and winning team announced.</p> <p>Part 2: Majoria/Minoria</p> <p>Materials for Majoria/Minoria</p> <p>2 rooms</p> <p>Minoria supplies</p> <p>Minoria handout (appendix)</p> <p>Plain brown paper</p> <p>String</p> <p>paperclips</p> <p>Majorian supplies</p> <p>Majoria handout (appendix)</p> <p>Coloured A4 cards</p> <p>Ribbon</p> <p>Tape</p> <p>Scissors</p> <p>For Both</p> <p>Flipchart</p>
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	Markers Tape
What info needs to be provided in Collaborative workspace?	Template of “If the world were 100 people”. Majoria/Minoria: Introduction procedure
How are we going to do it?	<p>If the world were 100 people (30 mins)</p> <p>Tell students to form groups of four to five and distribute the “If the World Were 100 People” (Hand out) to each group. They should take a look at some of their perceptions about the world and compare them with actual world demographics about population, health, wealth and resources. Ask them to discuss answers as a group, reach consensus and complete the worksheet. (10 mins)</p> <p>MAJORIA/MINORIA (2pm – 3.30 pm) -</p> <p>(2-2.10pm) Introduction</p> <ol style="list-style-type: none"> 1. Explain to the group that they’re going to participate in a game called “Minoria/Majoria.” The game centres around helping people from other countries. 2. Divide the group in two. Allow them to pick their country from a hat. Half the group will be Majorians from the “country” of Majoria and half will be Minorians from the “country” of Minoria. 3. Send the Majorians and one facilitator to another room, the “country” of Majoria. Have the Minorians stay in the original room, the “country” of Minoria. The facilitators in each room should pass out the appropriate instruction sheets, and other supplies. 4. Give the teams about 2 minutes to review their instructions. Then have the Minorian facilitator tell the Minorians that they have 20 minutes to plan an independence celebration for their country and decide how to greet the Majorians when they arrive. Have the Majorian facilitator tell the Majorians they have 10 minutes to plan how to help the Minorians. <p>(2.10-2.20pm) Develop strategy</p> <ol style="list-style-type: none"> 5. After 10 minutes, have the Majorians “arrive” in Minoria. If the Minorians protest that they’re not ready for the visit, the

Majorian facilitator should explain that the Majorians must stick to a tight schedule because of funding regulations.

(2.20 -2.50pm) Negotiate

6. Allow up to 30 minutes for the groups to negotiate and discuss the situation as their country representatives.

(2.50-3.20pm) Feedback to other country and discussion/reflection

.1 Ask both Minorians and Majorians to stay with their respective countries. .

2. Now ask the Majorians to describe the Minorians’ culture. Write the Majorians’ comments on flipchart and don’t allow the Minorians to speak.

4. Next, let each group respond to the other group’s description. Note whether the descriptions are positive or negative and why.

5. Ask a representative from each group to describe his or her group’s culture and original task to the other group.

6. Ask both groups to vote on which group they’d want to be a part of in real life.

Open discussion

Part 1b: 3.40pm – 4.00pm

Facilitator presents results of 100 people exercise. Winning group identified. If time permits, facilitator can ask the following questions:

RECORD DISCUSSION BOTH BY A VOICE RECORDER AND WRITTEN NOTES

Queries:

- What did you get right?
- What surprised you?
- What didn’t surprise you?
- How does this make you feel?
- What will you take away from this in terms of better understanding cultures?

What are students doing?	<p>Majoria/Minoria:</p> <p>Working in groups to develop a strategy to help or receive help. Negotiating with the other group to come to a solution.</p> <p>Working through a circular design process using the principles of the circular economy</p> <p>Working in groups for both the “If the world were 100 people”</p> <p>Reflecting on world population statistics and their own social context</p> <p>Role playing a game to highlight misconceptions and differences</p>
What is the “innovative” thing we are testing?	<p>Reflecting out loud</p> <p>Ability to deal with different cultures, potentially confrontation</p>
Facilitation (format) What are the hosts doing, what are the other partners doing?	<p>Majoria/ Minoria: 2 facilitators</p> <p>1 host chairs the event</p> <p>1 partner prepares spreadsheet of scores that each team has provided for 100 people so we can see what everyone thinks and who is the winning team</p> <p>1 host records voice and notes the discussion sessions.</p>
What do students have to output? (A document, complete a work sheet / create an artefact?)	<p>Complete 100 people worksheet</p> <p>Play game and reflect</p>
Would we evaluate the session?	<p>Microsoft Forms questionnaire one week after Summer School</p> <p>We will also record the discussion to see if any themes emerge on their experiences.</p>
Will facilitators give feedback on the output? (next day?)	No
Afterwork for students?	No afterwork
Afterwork for instructors?	Record, Transcribe focus group discussions.

Session 5: Wednesday 31st May 2023 (2pm – 4.45pm)

Session 5	Spirit AeroSystems – Composites factory visit
Who is responsible for it?	Ulster University
Who is chair?	Margaret Morgan
Timekeeper	Rosalind Henry
Attendance	All members of team
Schedule	<p>Purpose of Session: To experience the cutting-edge design and production techniques used in Spirit AeroSystems aircraft manufacture.</p> <p><u>Spirit AeroSystems Itinerary</u></p> <p>2.00 pm– 2.15 pm Arrive/check in</p> <p>Check in Airport Road West security gate, collect security passes</p> <p>Meet visit host</p> <p>2.15 pm - 2.30 pm Pre-tour preparation</p> <p>Host shuttle bus from security gate to Wing Production Unit (WPU)</p> <p>Put on PPE (safety glasses & overshoes from UU, disposable lab coats provided by Spirit AeroSystems).</p> <p>Host briefing: reminder about health & safety (walk in designated areas only, importance of not touching materials, etc.) and no photos.</p> <p>2.30 pm - 4.30pm Tour of manufacturing facility</p> <p>Walk through WPU (in 2 smaller groups) guided by hosts, with opportunities for Q&A during the tour</p> <p>4.30pm-4.45pm Check out/depart</p> <p>Group photo opportunity outside WPU</p> <p>Host shuttle bus from WPU to security gate.</p> <p>Remove and return/dispose of PPE.</p> <p>Return visitor passes to security staff.</p>

<p>Aims / Topics / Learning outcome addressed</p>	<p>Aims:</p> <p>Learning outcomes addressed:</p> <ul style="list-style-type: none"> • To explain the SDGs and the principles of sustainable development • To describe SDG 12 and the concepts of sustainable consumption and production • To appreciate the importance of R&D in developing solutions for carbon neutral transport technologies
<p>Any prework?</p>	<p>Staff</p> <p>Prepare brief background information on Spirit AeroSystems and history of aircraft manufacture in NI</p> <p><u>Logistics</u></p> <ul style="list-style-type: none"> - Liaise with Spirit AeroSystems to provide background to PROFESS 12 Summer School, brief them on our requirements, discuss suitable dates/times, itinerary, check PPE requirements. - Provide list of visitor names & nationalities. - Arrange transport to/from site. - Provide Spirit AeroSystems Visitor Induction pack to all visitors - Read Spirit AeroSystems Visitor Induction pack in advance of visit/be prepared to confirm compliance with H&S requirements at site - Collect PPE (at UU campus) for all tutors and students <p>Students</p> <ul style="list-style-type: none"> - Read Spirit AeroSystems Visitor Induction pack in advance of visit/be prepared to confirm compliance with H&S requirements at site
<p>Materials</p>	<p>PPE requirements:</p> <p>Safety shoes, face masks and glasses. Ear plugs not required or can be got at entrance to building Disposable lab coats provided by host on site.</p> <p>Other</p> <p>Neutral clothing to be worn. No photos or recordings to be made on site visit</p>

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Funded by:

What info needs to be provided in Collaborative workspace?	Spirit AeroSystems Visitor Induction Pack Hyperlink to company website and background information slides.
How are we going to do it?	Site visit (guided by Spirit AeroSystems staff)
What are students doing?	Tour of aircraft wing production unit including opportunities to meet staff (including Chief Engineer/Head of Technical Engineering) as well as Q&A during tour
What is the “innovative” thing we are testing?	Innovation in design and process engineering that enables carbon fibre wing structure manufacture to improve sustainability in the aerospace sector.
Facilitation (format) What are the hosts doing, what are the other partners doing?	Host (Spirt AeroSystems rep) to pick us up from Airport Road West security gate @2pm. To provide a tour of the facility for 2.5 hours. Q&A to bring out any salient points.
What do students have to output? (A document, complete a work sheet / create an artefact?)	Students to reflect on the educational visit, and complete MS forms survey – Reflections on Site Visits (covering Sessions 5 and 6)
Would we evaluate the session?	As part of the overall Summer School evaluation Microsoft Forms questionnaire one week after Summer School
Will facilitators give feedback on the output? (next day?)	No
Afterwork for students?	Complete MS forms survey – Reflections on Site Visits (covering Session 5 and 6) Reflect on carbon neutrality of air travel (as part of Session 8)
Afterwork for instructors?	Collect PPE from tutors and students and return to UU Campus Send acknowledgement to visit host. Analyse responses to Reflections on Site Visits Identify any feedback relevant to this session (from overall Summer School evaluation feedback from tutors and students)

Session 6: Thursday 1st June 2023 (10.00am – 12.30pm)

Session 6	Research Led Sustainable Development
Who is responsible for it?	Ulster University
Who is chair?	Margaret Morgan
Timekeeper	Rosalind Henry
Attendance	All members of team
Schedule	<p>Purpose of Session : Appreciate the cutting-edge technology and materials advancement in the maritime transport sector – Artemis Technologies Ltd</p> <p>Pre-visit preparation & travel</p> <p>10.00am-10.30am Pre-Visit Briefing (at hotel) highlighting:</p> <ol style="list-style-type: none"> 1. Belfast (particularly Queen’s Island/Airport Road areas) transport/industrial heritage and ongoing innovation. Common thread across visits on Wednesday and Thursday: chronologically from shipbuilding (Titanic Belfast) to aircraft manufacturing (since early-mid 20th Century to present day (Spirit Aero)) to contemporary/future maritime transport (ATL) 2. ATL – innovative / R&D led to develop more sustainable maritime transport (both production and consumption) 3. unique/rare opportunities to get access to Spirit AeroSystems and ATL for site visits 4. Practical matters <ul style="list-style-type: none"> - Issue ATL visit forms to tutors/students to read and sign - Collect completed forms/provide to ATL on arrival <p>10.30-11.00am Travel from hotel to Manufacturing Facility</p> <p>ATL Itinerary/on site</p> <p>11.00am-11.10am Visitors arrive and check-in, <i>Manufacturing Facility Reception</i></p> <p>11.10am-11.40am Presentation, introduction to Artemis Technologies vessels and technologies, plus plans for the future, <i>Manufacturing Boardroom</i></p>

	<p>11.40am-11.50am Q&A, <i>Manufacturing Boardroom</i></p> <p>11.50am-12.10pm Manufacturing Facility Tour and SIM explanation</p> <p>12.10pm-12.20pm Pontoon tour and charging infrastructure explanation</p> <p>12.20pm-12.30pm Group photo opportunity (at pontoon)</p> <p>12.30pm Visitors depart Manufacturing Facility</p>
Aims / Topics / Learning outcome addressed	<p>Aims:</p> <p>Learning outcomes addressed:</p> <ul style="list-style-type: none"> • To explain the SDGs and the principles of sustainable development • To describe SDG 12 and the concepts of sustainable consumption and production • To appreciate the importance of R&D in developing solutions for carbon neutral transport technologies
Any prework?	<p>Staff</p> <p><u>Logistics</u></p> <ul style="list-style-type: none"> - Briefing call with ATL to provide background to PROFESS 12 Summer School, brief them on our requirements, discuss suitable dates/times, discuss itinerary, check PPE requirements. - Provide list of visitor names - Arrange transport to/from site - Provide printed copies of ATL Visit Form for all - Complete and sign ATL Visit Form, bring to visit - Read ATL welcome pack <p>Students</p> <ul style="list-style-type: none"> - Complete and sign ATL Visit Form, bring to visit - Read ATL welcome pack
Materials	<p>No requirement for PPE on site visit.</p> <p>Neutral clothing.</p>

	Note: No photography is permitted by visitors on-site.
What info needs to be provided in Collaborative workspace?	ATL Welcome Pack ATL Visit Form – Ts&Cs Hyperlink to company website
How are we going to do it?	Site visit (guided by ATL staff)
What are students doing?	Attend formal presentation providing overview of ATL and current/future activities Manufacturing Facility Tour (also Simulator and Pontoon) Opportunities to meet staff (including Programme Director, Belfast Maritime Consortium Strength in Places programme, Research Engineer and Graduate Engineers), chat informally and for Q&A during tour
What is the “innovative” thing we are testing?	Innovation in design and process engineering that enables carbon fibre smart structural materials to improve sustainability in the maritime transport sector.
Facilitation (format) What are the hosts doing, what are the other partners doing?	Host (ATL rep) to meet us at reception @11am. To provide presentation followed by tour of the facility for 1.5 hours as per itinerary above. Q&A to bring out any salient points.
What do students have to output? (A document, complete a work sheet / create an artefact?)	Students to reflect on the educational visit, and complete MS forms survey – Reflections on Site Visits (covering Session 5 and 6)
Would we evaluate the session?	As part of the overall Summer School evaluation Microsoft Forms questionnaire one week after Summer School
Will facilitators give feedback on the output? (next day?)	No
Afterwork for students?	Complete MS forms survey – Reflections on Site Visits (covering Sessions 5 and 6)
Afterwork for instructors?	Send acknowledgement to visit host. Analyse responses to Reflections on Site Visits Identify any feedback relevant to this session (from overall Summer School evaluation feedback from tutors and students)

Session 7: Friday 2nd June 2023 (10.00 – 10.45 am)

Session 7: Title	Session 7:
Who is responsible for it?	TU Dublin
Who is chair?	Janet McKennedy
Timekeeper	Una Beagon
Attendance	All members of team
Schedule	<p>Purpose of Session : To Identify one’s personal impact on the planet and how it can be improved</p> <p>10.00 - 10.10: JMK: Powerpoint and what is your carbon footprint? Why is it important?</p> <p>10.10-10.30: Students complete calculator and identify changes they can make.</p> <p>10.30 -10.45: Students outline their changes on sticky notes/padlet. Brief discussion/reflection on calculator and changes to be made.</p> <p>RECORD</p>
Aims / Topics / Learning outcome addressed	<p>Learning Outcomes:</p> <ul style="list-style-type: none"> To calculate one’s own carbon footprint.
Any prework?	None
Materials	<p>Personal Impact Powerpoint</p> <p>Sticky notes or padlet to record anonymous improvement ideas</p>
What info needs to be provided in Collaborative workspace?	<p>Personal Impact Powerpoint</p> <p>Carbon footprint calculators</p>
How are we going to do it?	Short powerpoint introduction then students work on their own. Students commit to their own changes. Brief discussion
What are students doing?	Completing footprint calculator and looking at what changes they can make. Discuss those changes in open discussion.

What is the “innovative” thing we are testing?	Carbon footprint calculator Padlet
Facilitation (format) What are the hosts doing, what are the other partners doing?	Fielding questions while the footprint calculator is being completed.
What do students have to output? (A document, complete a work sheet / create an artefact?)	Sticky note. Share thoughts.
Would we evaluate the session?	Not formally. Verbally? Sticky notes? Formatively?
Will facilitators give feedback on the output? (next day?)	No.
Afterwork for students?	Reflect in feedback questionnaire
Afterwork for instructors?	None.

Session 8: Friday 2nd June 2023 (11.00am – 12.30pm)

Session 8: Title	Session 8: Show and Tell and Prizegiving
Who is responsible for it?	TU Dublin
Who is chair?	Una Beagon
Timekeeper	Ruchita Jani
Attendance	All members of team
Schedule	<p>Purpose of Session :</p> <ul style="list-style-type: none"> To facilitate students to prepare for an interview scenario To celebrate the Summer School To provide prizes to students for achievement To take individual photos for use on Linked In etc
Aims / Topics / Learning outcome addressed	<p>Learning outcomes addressed:</p> <ul style="list-style-type: none"> To develop skills in oral communication and presentation
Any prework?	<ul style="list-style-type: none"> Prepare certificates of achievement Bring cash prizes/trophies Agree on winners Prepare questions and handout for Show and Tell Organise photographer
Materials	<ul style="list-style-type: none"> Prepare questions and handout for Show and Tell Bring cash prizes/trophies
What info needs to be provided in Collaborative workspace?	Question preparation
How are we going to do it?	<p>Students are asked to prepare interview answers about the Summer School. They type/write these out, and practice in 1-2-1 with another student. Students record their answers on voice notes and submit. (1 hour)</p> <p>Students are asked to respond to four questions:</p> <ul style="list-style-type: none"> So I see from your CV, you attended a Summer School, what was that about?

	<ul style="list-style-type: none"> • So what were the key things you learned at this Summer School? • I see you did something on intercultural skills, can you tell me what you learned from that? • What skills did you develop, I mean, how does your participation in that Summer School help me if I employed you?
<p>What are students doing?</p>	<p>11.00-11.20am – Instructor briefs the students and they are asked to prepare answers.</p> <p>11.20-11.40am – Students practice with another student.</p> <p>11.40- 12.00pm – Students record the voice notes and send to instructors</p> <p>12.00pm – 12.30pm – Students are asked to volunteer (PRIZE) a few responses.</p> <p>12.30pm-12.45pm – Prizegiving:</p> <p>Best prizes for:</p> <ul style="list-style-type: none"> • Creativity, Innovation and Teamwork Award (Winners of Marshmallow Challenge – Session 1, 4 students) • Sustainable Development Award (Winners of SDG presentation – Session 2, 4 students) • Circular Economy Award (Winners of Circular Economy Project – Session 3, 4 students) • Intercultural Award (Most engaged students in Majoria/Minoria workshop – Session 4, 4 students) • Sustainability Champion Award (4 students) • Outstanding Communicator Award (2 students) • Outstanding Team Player Award (2 students) • Natural Born Leader Award (2 students) • Most Engaged Student Award (1 student) • Social Media Award (1 student) • Snapping Dublin Award (1 student) • Snapping Belfast Award (1 student) <p>We also arranged for a photographer to come early and to take individual profile photos of students that they could use on their Linked In page etc. With the benefit of hindsight, it may have been better to do this on the first day.</p>
<p>What is the “innovative” thing we are testing?</p>	<p>Voice recording of interview questions</p>

Facilitation (format) What are the hosts doing, what are the other partners doing?	Hosts are present but not interfering in students' reflection and recording process
What do students have to output? (A document, complete a work sheet / create an artefact?)	Write out the answers, record the voice recording.
Would we evaluate the session?	No
Will facilitators give feedback on the output? (next day?)	No
Afterwork for students?	None except to upload responses
Afterwork for instructors?	Collate interview responses and analyse for feedback

Acknowledgements

We would like to acknowledge the HEA, DFHERIS and the All Island Fund for funding for this project.

Appendix A – Summer School Application Form



PROFESS 12 Co-creation Exercise and Summer School Application Form

PROFESS 12 Research Project :

Our research will inform the design of a teaching activity to help students develop the necessary skills required to help solve the SDGs. We wish to run a summer school for engineering students and to trial some learning and teaching approaches, and we would like to co-create this summer school with engineering students. You can apply to participate in the co-creation workshop and for the Summer School through this application form.

This application form also asks for your consent to use the findings of the co-creation exercise as part of our data collection for the project. We are asking for your permission to use the brainstorming sheets and to take short notes of some of the conversations and verbal outputs from the workshop. Students will not be identified in this data collection process, it will be anonymous.

Research Work:

The data we collect in this form will be used to select participants for the co-creation exercise and the summer school and we also hope to write some academic papers outlining our findings in scientific publications, books or conference proceedings based on the collected data and opinions.

Confidentiality and Withdrawal:

This application form is completely voluntary, but if you wish to apply, we will need to collect your name and email so we can get in touch. You may withdraw part way through the application if you wish. If you are selected to participate, you may also withdraw, but please let us know in plenty of time.

Health and Safety Implications:

There are no health and safety implications to this research.

Data Retention:

We are obliged to retain data (including this consent form) for the period of this study (to December 2024) during which time it will be held securely and confidentially on password protected computers and after which it will be destroyed. The data will only be accessible to researchers involved in the PROFESS 12 project.

Queries

Please feel free to contact us should you have any queries on una.beagon@tudublin.ie or m.morgan@ulster.ac.uk.

Ethical Approval :

This project has been approved by the TU Dublin Research Ethics and Integrity Committee on 2nd November 2022. You are free to contact the ethics committee on researchethics@tudublin.ie should you wish to make a complaint on ethical grounds.

Consent:

We would appreciate it if you could read the consent questions and complete the survey if you are happy to do so

1. Please review the following to indicate your consent:

I confirm that I have:

- Read and understood the participant information related to this study (Included above).
- Been fully informed of the nature of the study by the researcher.
- Had the opportunity to ask questions about the research.
- Received sufficient information about the potential health and or safety implications of the research.
- Been fully informed of your ability to withdraw participation and/or data from the research.
- Been fully informed about what will happen to the data generated by my participation in the study and how it will be kept safe.
- Been informed that this consent form shall be kept securely and in confidence by the researcher.

I therefore agree to take part in the study, the results of which may be disseminated in scientific publications, books or conference proceedings.

I Consent

2. Your name? *

3. Your email address? *

4. What course are you enrolled in? *

5. Year of course enrolled in? *

6. Your gender? *

This information will be used to ensure gender balance is achieved for the event

- Woman
- Man
- Gender Non Confirming
- Non Binary
- Transgender
- Prefer to self describe
- Prefer not to say
- Not listed

7. What are your views on sustainability? *

(Max 200 words)

8. Why do you want to participate in this summer school? *

(Max 200 words)

9. What qualities do you possess that would make this summer school a success? *

(Max 200 words)

10. Please confirm that you are available for participation in the following events: *

The co-creation exercise is separate to the Summer School and you can attend the co-creation exercise only if you wish.

- Co-Creation Exercise - 26th January 2023 (Thursday 1-4pm)
- Summer School - 4th March 2023 (Saturday 8am - 7pm) AND Monday 29th May to Friday 2nd June 2023 inclusive. You will stay in accommodation in Dublin and in Belfast overnight.

11. This event will require travel to the Northern Ireland (UK) region. Do you meet the necessary travel requirements (i.e. VISA)? *

- Yes
- No

Appendix B – Welcome email and Code of Conduct

Welcome email:

Dear Students,

We look forward to meeting you again on Monday next (29th May) for our Summer School.

As promised, I have attached a student handbook and the general itinerary for the week.

Please remember to bring ID and your student cards.

We look forward to seeing you then.

Monday 29 th May 2023	Ulster University Students will travel down from Belfast (arrive at UU campus 09:15 AM, Frederick Street entrance, UU Belfast Campus) TU Dublin students will meet at Room 263 (at back of canteen) in Bolton Street, Dublin at 12.00 midday
Monday afternoon – Thursday	Students will stay together in workshops, travel and hotels until Friday 2nd June, travelling to Belfast on Wednesday morning.
Friday 2 nd June 2023	Ulster University students will finish at 1.30pm in Belfast TU Dublin students will finish at 1.30pm in Belfast and then travel by bus to Dublin, arriving 4/5pm.

Link to Student Handbook:

[PROFESS 12 Student Handbook](#)

All resources such as the Student Handbook will be provided on our website.

Appendix C: Session 2 Feedback template for students presenting

Feedback sheet for speakers

Speakers Name:
Please give feedback on three positive things about the presentation
1.
2.
3.
Please give one piece of advice on how to improve for the next time
1.

Appendix D: Session 3 Intercultural Skills

Handout 1- “If the World Were 100 People”

1	57	50	21	6	70	59
52	30	1	80	70	48	8
6	1	14	1			

Directions: Place the following numbers in the appropriate blanks:

If the world were 100 people there would be:

___ Asians

___ Europeans

___ North and South Americans

___ Africans

___ females

___ males

___ non-white

___ white

___ would be near death.

___ would be near birth.

___ percent of the entire world's wealth would belong to only ___ people and ___ would be citizens of the United States.

___ would live in substandard housing.

___ would be unable to read.

___ would suffer from malnutrition.

___ would have a college education.

___ would have a computer

Handout 2- “If the World Were 100 People” – Answers

If the world were 100 people there would be:

57 Asians

21 Europeans

14 North and South Americans

8 Africans

52 females

48 males

70 non-white,

30 white

1 would be near death

1 would be near birth

59 percent of the entire world’s wealth would belong to only 6 people and 6 would be citizens of the United States

80 would live in substandard housing

70 would be unable to read

50 would suffer from malnutrition

1 would have a college education

1 would have a computer

Majoria / Minoria Handouts

You are Majorian!

Congratulations, you have just become a citizen of Majoria! Its one of the wealthiest nations in the world. While there are some poor people in Majoria, most residents here enjoy a standard of living that more than meets their needs for basic survival.

Through trade and its role as a dominant force in world politics, Majoria has been able to acquire the raw materials it needs to support its standard of living and sell its goods in the international marketplace.

Majorians are very task-oriented people. They believe its important to set goals and accomplish them in as little time as possible. You won't find Majorians wasting time on idle conversation when so much needs to be done.

Your Assignment

As a Majorian, you have just volunteered to be on a technical assistance team that will take supplies donated by your rich country to an obscure little one called Minoria.

You and your team members have 10 minutes to plan what you will do to help the Minorians when you arrive there.

Once you have arrived, you have up to 30 minutes to help the Minorians plan and build a major project that can only benefit their country. Your goals are to:

- Help Minoria set its priorities that so it places the few resources it does have where the needs are greatest.
- Help the Minorians to wisely use the materials you've brought.
- Give helpful hints on construction and also technical assistance, on the final project.

What You Need to Know About Minoria:

Minoria is a poor country, colonized by Gezboria – a wealthy nation. It has only recently won its freedom.

Most of Minoria's residents are very poor, although there are some wealthy Minorians. There are only a few doctors –and just one hospital – in the entire country.

Most of the houses in Minoria have no electricity or running water. Only a few children finish more than a few years of schooling, since most are needed by their families to help in the fields. There aren't many schools available, either.

Minorians grow bananas, coffee and chocolate to export to countries like Majoria. However, the income from these crops is usually not substantial enough for the workers to buy food for their families. Most Minorian children are undernourished.

(Note: Your supplies – coloured cards, tape, scissors and more – can represent anything you want them to.)

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Funded by:

You are Minorian!

Congratulations, you've just become a citizen of Minoria! This is an old country with a noble history and rich culture. Unfortunately, it's been dominated by other nations for so long that much of that culture has been destroyed.

After a lengthy battle, Minoria finally freed itself from Gezborian rule. It's just now beginning to regain its sense of independence and pride.

Under colonial rule, the small farms that dotted the countryside were consolidated into large banana, coffee and chocolate estates. Today, the Minorian economy relies mostly on exporting these crops to wealthy nations such as Majoria.

Sadly, prices for these goods have fallen dramatically in recent years. At the same time, Minoria's debts have sharply increased because of the rising costs of oil, fertilizer, machinery and other things that must be imported, since Minoria was not allowed to industrialize while a colony.

Although Minorians face serious problems, they accept that change takes time.

Minorians place a strong emphasis on personal relationships. They love long conversations where people can get to know each other before coming to decisions.

Your Assignment

You and your team have 20 minutes to discuss the best way to restore Minorian pride and to figure out how you will react when the Majorians arrive.

Once the Majorians arrive, you'll have 30 minutes to work together on your project. As you plan what to do, remember:

- Your country has been dominated by outsiders for centuries, but you are determined to fiercely protect your right to make your own decisions.
- You want to use your own native materials and resources at hand as much as possible. You've become skeptical of other countries' motives, since many have tried to dispose of inferior or hazardous materials, in the guise of donations to your country. You're also wary of politics and of becoming indebted to outsiders.

What You Need to Know About Majoria

Majoria is one of the wealthiest nations in the world. While there are some poor people in Majoria, most residents there enjoy a standard of living that more than meets their needs for basic survival.

Through trade, and its role as a dominant force in world politics, Majoria has been able to acquire the raw materials it needs to support its standard of living and sell its goods in the international marketplace.

(Note: Your supplies – brown paper, string and more –can represent anything that you want.)

Appendix E: Award Certificate template

