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University**
London

HackCentre

TOOLKIT FOR LECTURERS:

RUN YOUR OWN HACKATHON!

ENGAGING STUDENTS WITH SUSTAINABILITY AND BEYOND



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WELCOME

WHY THIS TOOLKIT?

Hackathons are team based, problem-based activities, where participants work creatively, often under time constraints to develop a product, service or idea that respond to real world challenges.

This toolkit is designed to support university staff involved in teaching to integrate hackathons into their pedagogic approach. It brings together research insights, staff interviews, existing resources, and institutional priorities to create a practical guide for designing and running impactful hackathon-style learning experiences.

It can be used to help deliver a short in-class activity, a multi-week group challenge, or an institution-wide initiative.

Originally developed by staff at Kingston University across Enterprise Education, Education for Sustainability, and the Learning and Teaching Enhancement Centre and co-funded by the EEUK Impact Fund, the toolkit is intended for wide dissemination. Our hope is to inspire a broader community of practice across higher education institutions.

Quotes throughout the guide are drawn from interviews and feedback shared by staff and partners who have delivered or supported hackathons. We are grateful for their contributions.

The toolkit uses Sustainability as a central theme to illustrate how hackathons can be applied. While this is a strong and increasingly urgent area, many other themes across health, equity, education, technology, and beyond can and should be explored through hackathons. Sustainability simply offers a clear, recognisable lens for framing the examples in this guide.

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INTRODUCTION

WHAT IS A HACKATHON?

A hackathon is a time-bound, challenge-based learning experience where students work collaboratively often in interdisciplinary teams to solve real-world problems. Rooted in active pedagogies like Design Thinking, hackathons focus on problem discovery, idea generation, solution prototyping, and presentation.

They are structured problem-solving events that originated from coding but are now widely used across disciplines to explore real-world issues and develop future-facing skills.

Hackathons typically involve:

- Working in groups
- Exploring a problem
- Generating and pitching a solution
- Receiving feedback

They can be fast-paced, light-touch sessions, or embedded, multi-week learning experiences. The goal is not “right answers” but *curiosity, creativity, and application*.

“It gives students a chance to apply what they’ve learned and see how it works in the real world especially when they pitch to people who might actually use their ideas.”



WHY USE HACKATHONS?

Hackathons offer strong pedagogical benefits, being grounded in student-centered and active learning approaches, where learners take ownership of their ideas, work in teams, and apply knowledge in real-world contexts (e.g., Hart et al, 2023). This experiential format enhances engagement, deepens understanding, and supports the development of graduate attributes such as creativity, critical thinking, cooperation, teamwork, and resilience.

This methodology also promotes collaboration with the wider community by bringing together universities, businesses, NGOs, and governments. It enriches the learning experience and builds meaningful university–business partnerships that can lead to long-term impact and systemic change. For organisations, they create value by helping to identify and solve the real challenges they face.

More importantly, **hackathons empower students to see themselves as change-makers**. They foster a sense of agency, helping all those involved to believe that they can make a real difference in their communities and beyond. They also nurture key graduate attributes like critical thinking, creativity, confidence, collaboration, and global citizenship, making students more employable, socially responsible, and ready for the future.

Overall, they are used as active learning pedagogy to:

- Explore real-world problems and practice coming up with potential solutions
- Foster collaborative learning opportunities
- Stretch students beyond their discipline and context
- Develop Graduate Attributes and Skills while shaping mindsets and attitudes

They are also a response to:

The need to engage students in learning by doing and to enable them to articulate what they have learned

VALUE FOR STAFF

- Fresh way to energise modules or reframe group work
- Builds connections with alumni, local government, and employers
- Supports interdisciplinary collaboration
- Encourages curriculum innovation while staying aligned with learning outcomes

“Even staff who were new to hackathons said it helped students focus, energised the module, and gave them an authentic reason to engage.”

VALUE FOR STUDENTS

- Makes learning practical and purposeful
- Encourages creativity, risk-taking, and peer support
- Helps students gain confidence and leadership experience
- Provides networking and exposure to real-world problems

“Students were really engaged when they knew an employer would be seeing their work. They took it seriously, and some got interviews afterward.”

VALUE FOR ORGANISATIONS

- To help identify or clarify real challenges
- Introduce novel insights from different perspectives
- Explore ideas for new strategies
- Generate new products, services, or other opportunities.

WHAT ABOUT HACKATHONS FOR SUSTAINABILITY?

Hackathons focused on the UN Sustainable Development Goals (SDGs) and green skills development are powerful platforms for innovation, learning, and empowerment. **They encourage students to engage directly with global challenges, transforming abstract goals into practical, local solutions that matter.**

These events help students develop essential skills such as design and systems thinking, anticipatory thinking, problem-solving, collaboration, and self-awareness, which are increasingly in demand as industries transition toward more sustainable practices (e.g., Happonen et al, 2020). As the nature of jobs evolves to include sustainability across all sectors (e.g., Green Jobs Taskforce, 2021; South London Partnership, 2021), hackathons provide a space for students to adapt, prepare, and lead in this critical area.

Hackathons on Sustainability topics can also be framed as responses to

- Institutional strategies (e.g., Kingston’s Future Skills, Inclusion and Diversity, and Sustainability Plan)
- Calls to bridge the existing green skills for a transition to a low carbon society

COMMON CONCERNS

This toolkit directly addresses concerns raised by staff during interviews:

CONCERN	TOOLKIT SECTION
“What is a Hackathon?”	Introduction
“I don’t know how to start”	Getting Started and Planning & Designing Your Hackathon
“What if I have a big group?”	Facilitation Tips
“How do I assess this fairly?”	Assessment
“I don’t have time!”	Use all sections to learn about the pedagogy quickly!
“Can I get support from others?”	Training and Support

Where are you in developing your practice? Use our Self Evaluation Tools to help diagnose your own expertise and competence, and focus on the most important parts of the Toolkit for you.



STARTING POINTS

THE PEDAGOGY

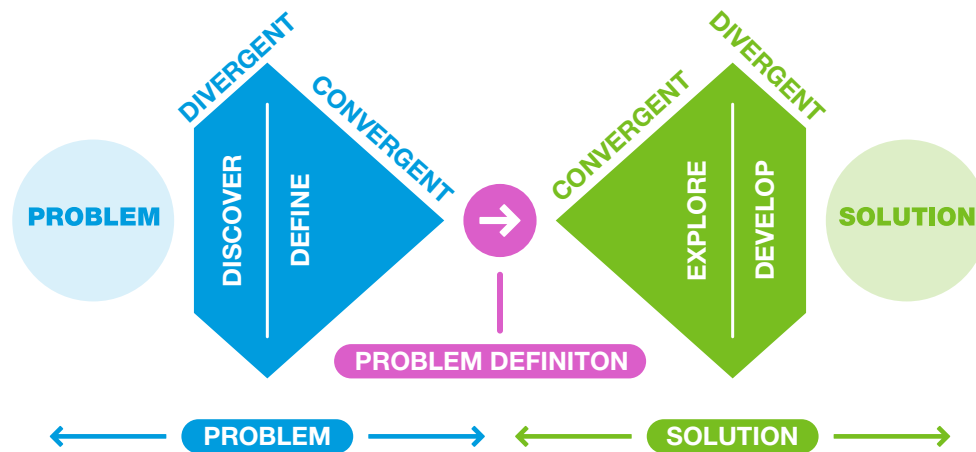
WHAT THIS SECTION HELPS YOU DO:

This section gives you a clear, confident starting point if you are new to hackathons, or you are wondering how to run one in your context.

It introduces what a hackathon is, shows how flexible the format can be, and helps you identify the best way to begin.

This toolkit is structured using the Double Diamond design process, Discover, Define, Develop, Deliver and includes practical guidance on planning, running, and assessing hackathons.

THE DOUBLE DIAMOND: OUR CORE METHODOLOGY



We use the **Double Diamond** framework developed by the UK Design Council. It helps guide students through:

1. **Discover** – Research, investigate the challenge (using divergent thinking)
2. **Define** – Narrow to a clear problem (using convergent thinking)
3. **Develop** – Explore creative ideas and solutions (using divergent thinking)
4. **Deliver** – Present or prototype a solution (using convergent thinking)

You can use the visual diagram during your introduction to explain this clearly to students. It encourages focusing on the problem BEFORE moving on to solutions. This aligns with classic research, where situation analysis and prior evidence are researched first.

The methodology is a type of Design Thinking – where the problem and problem owners are at the heart of the whole process: what is actually going on, what are the problem-owners' needs?

FIRST DIAMOND

The session begins with a focus on the problem or challenge. Sometimes, students need to identify their own challenge as part of the hackathon, and this part of the activity should help them to identify as well as explore problems. In this activity, students should explore and share their experience, and knowledge ('what do I know about this problem?').

The team can discuss their differing perspectives, do some research to clarify uncertainties and cause and effect, find out what users or problem holders are thinking and doing. This research activity can vary in depth and duration, depending on the duration of the hackathon, and the outputs required. Mind-mapping and story-boarding may be helpful here.

Problem Statement

A problem statement completes the first stage of the research. A number of groups working on a similar challenge may come up with quite different problem statements, leading eventually to different types of solution.

SECOND DIAMOND

Teams then turn to generating ideas which address their particular problem statement. This is potentially a particularly creative activity, with teams using creativity techniques like brainstorming and re-framing to develop find ideas and develop them. They can also use techniques like brainstorming and storyboarding to develop their ideas together.

Finally, a product, service, campaign, or similar is articulated. The depth and extent of the development is partly a function of how much elapsed time is programmed. Many hackathons last just a few hours, and students present provisional ideas; other last an entire term and students are expected to have worked the ideas through, created outline financials, and validated them with potential customers.

Presenting the Ideas

The presentation of the idea in some format is an important stage – whether this is as a video, a live presentation (on or off line), a submitted slide-deck, or something else. This is sometimes the first time a student has had to present, and this helps them to develop their skills and confidence.

HACKATHONS CAN LOOK LIKE:

FORMAT	DURATION	USE CASE
Mini Hackathon	60–90 mins	Starter activity or icebreaker
Sprint Day	3–6 hours	Workshop, group task, real-world brief to launch a subject, open up discussion, provide ideas for later follow-up
In-Module Hackathon	1–3 weeks or term-wide	Integrated into timetable across a term, as a substantial part of learning and assessment
Cross-Module Hackathon	Any (e.g. themed weeks)	Multiple cohorts / Interdisciplinary for enhancing student experience, opening up opportunities for students
Online / Hybrid Hackathon	Any	Flexible delivery using collaborative tools (e.g., Teams or Miro), particularly useful for international partnerships

You don't need a specific subject or structure to get started. The most important thing is that students:

- Collaborate
- Think creatively and critically
- Present their ideas in some form

WHY USE A HACKATHON?

Interviewed staff consistently said hackathons:

- Made group work more purposeful
- Boosted engagement
- Brought external input into learning
- Helped students work across disciplines

They are also a great match for:

- Graduate Skills and employability themes
- SDG-related modules or civic engagement
- Replacing traditional group presentations
- Community-building activities

“We had students from different disciplines working together for the first time... it gave them confidence, and they learned to value each other's perspectives.”

CONCERN

REFRAME

- | | |
|-------------------------------------|---|
| “I have never run one before.” | ———— That’s okay! Start small. Use the Mini Hackathon format. |
| “What if my students don’t engage?” | ———— The novelty and team setup often boost energy. Use clear rules. Align and include in assessment to emphasize learning. |
| “I don’t have an external partner.” | ———— You can simulate a brief (see Planning & Designing Your Hackathon section).

Or let students find their own problems to solve, within a general envelope or challenge. |
| “I don’t have time in-curriculum” | ———— Make the Hackathon an essential part of assessment, including some of the content of your module within it. |
| “Is this too informal for HE?” | ———— Hackathons are supported by design-thinking pedagogy and used across universities globally. |



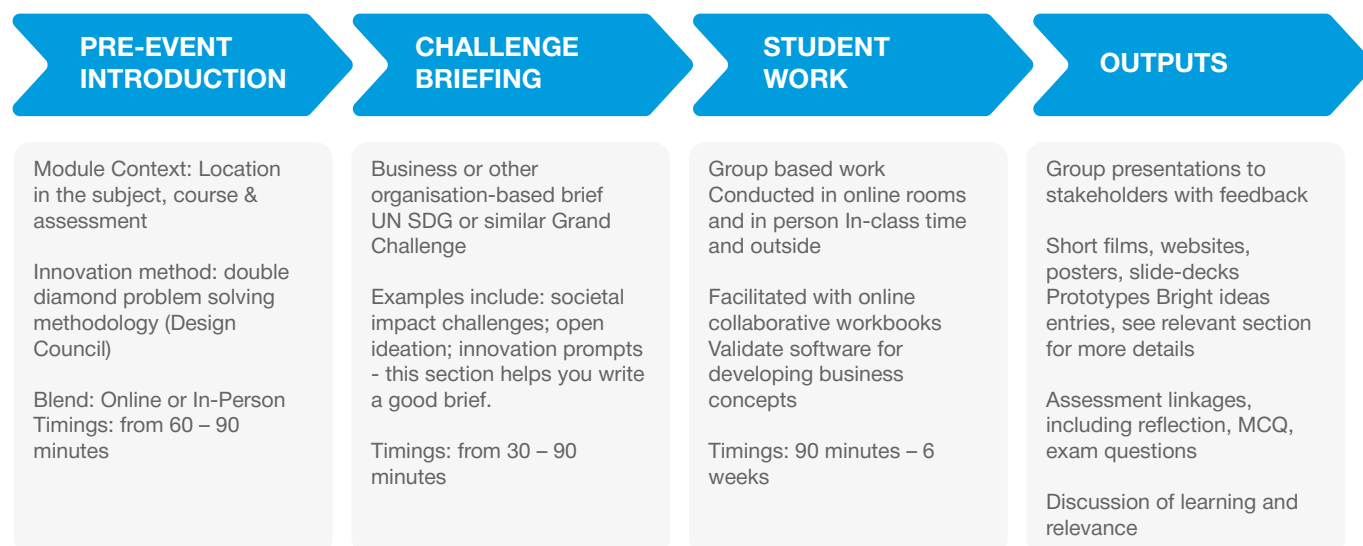
PLANNING & DESIGNING YOUR HACKATHON

WHAT THIS SECTION HELPS YOU DO:

This section will help you shape your hackathon to fit your module, timeline, and student cohort. Whether you are working solo or collaborating with colleagues or external partners, this guide will help you:

- Choose a suitable challenge or theme
- Align it with your learning outcomes
- Design a brief and structure your session(s)
- Decide how to run the event (timing, team size, format)

MAIN ELEMENTS OF A HACKATHON



BEFORE YOU BEGIN: THINGS TO CONSIDER

QUESTION

WHY IT MATTERS

What skills or outcomes do I want students to develop?

Connect your activity to module LOs and graduate attributes (e.g. Future Skills).

Do I want students to solve a set challenge or create their own?

This shapes how much scaffolding and structure you provide.

Will I be working with an external partner?

Affects timing, coordination, and feedback processes.

How much time do I have?

Hackathons can be 90 mins, 1 day, or 4 weeks long. See models above.

Will I assess the hackathon directly?

If yes, see the Assessment section for alignment tips.

Timetabling

When can it happen?

Rooming

flat tables arranged for group work are best – can you find that room?

Student groups

make them up in advance and ensure that students know about them.



HOW TO WRITE A GOOD BRIEF FOR STUDENTS

A good brief is:

- Open-ended but clear
- Aligned with real-world issues or course themes
- Scaled to the time available
- Connected to SDGs, local context, or industry trends (as relevant)

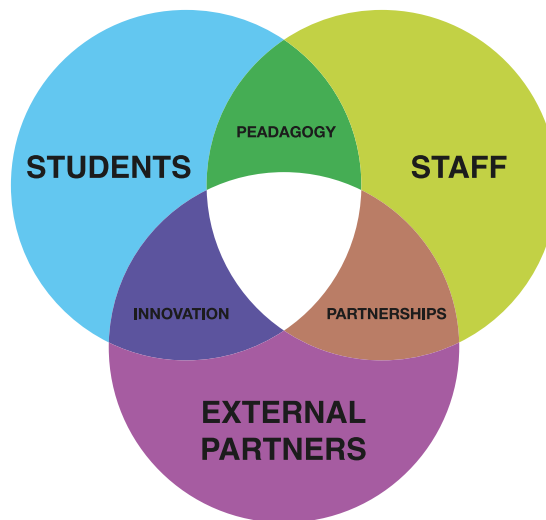
The key parts of the brief are:

1. In teams, propose a creative solution that addresses one key challenge in (context).
2. Consider its feasibility, impact, and alignment with (SDG or outcome).
3. Present your idea as a (poster / pitch / report / prototype / video).

Common Brief Types:

- Based on UN SDGs (e.g. food systems, climate, gender equity, sustainable cities) or other Grand Challenges
- Live briefs from business or community organisations
- Course-relevant issues from your discipline (e.g. urban design, inclusion in law)
- Student-generated challenges using prompts (e.g. pictures, objects) or local context

WORKING WITH OR WITHOUT EXTERNAL PARTNERS



You can:

- Partner with local government, business or third sector organisations, alumni (e.g. through alumni engagement team), NGOs, etc`
- Use internal contacts, such as Careers & Employability teams, Knowledge Exchange teams, sustainability or biodiversity teams
- Run internally without partners by simulating a real-world brief
- Enable students to come up with their own challenges to solve, based on their interests

Top Tips:

- External partners are great for giving feedback or judging
- Share a short 1-pager with partners explaining your goals, timeline, and ask
- Avoid overcomplicating the brief, keep it focused
- Have a backup plan, in case a partner changes their mind or is unable to support after all
- Manage expectations of external partners – what level are the students? What is their main topic of study? What would you expect them to be able to do or deliver?

CHOOSING A TIMING FORMAT

Refer back to the table earlier (page 10).

CHECKLIST: PLANNING YOUR HACKATHON

- ✓ Defined learning goals and topic
- ✓ Written your student-facing challenge brief
- ✓ Shared resources or templates in advance
- ✓ Planned how teams will be formed
- ✓ Decided how outputs will be shared or presented
- ✓ Clarified whether it's assessed or formative
- ✓ Booked room or online platform
- ✓ Invited mentors, colleagues, or guests (if needed)



RUNNING THE HACKATHON

WHAT THIS SECTION HELPS YOU DO:

This section helps you confidently deliver a hackathon session. Whether it's 2 hours or 2 weeks, this guide will walk you through how to:

- Introduce the format and set expectations
- Guide students through each stage (Discover, Define, Develop, Deliver)
- Keep engagement high and support teamwork
- Run presentations or pitches

THINGS TO CONSIDER BEFORE THE SESSION

- Have you shared the brief and outcomes in advance?
- Will students know what a hackathon is?
- Will you have mentors or colleagues supporting teams?
- Do you need access to tech (e.g. Teams, whiteboards, Miro, slides)?
- Will you be doing this online, in-person, or hybrid?

SUGGESTED SESSION FLOW (FLEXIBLE FORMAT)

1. **Welcome & Framing – Set the tone:** “This is a high-creativity space. It’s not about right answers, it’s about exploring.”
2. **Revisit the Brief – Re-align with outcomes:** Remind students of the challenge, time limits, and outputs (poster, pitch, etc.)
3. **Discover – Understand the problem:** Ask teams to list what they already know or don’t understand about the problem. Use prompts or data.
4. **Define – Frame a core issue:** Help students focus their challenge: “What’s the real problem we want to solve?”
5. **Develop – Generate ideas:** Encourage wild ideas first, then narrow them down. Suggest using sketching, storyboarding, or sticky notes.
6. **Deliver – Prepare presentation:** Give structure: 2 mins too tight change to ‘time to present (e.g. 5 mins etc)
7. **Share - Pitches or posters:** Use online breakout rooms / physical rooms / exhibition spaces
8. **Reflect – Capture learning:** Prompt quick reflections: “What went well? What surprised you? What would you do differently?”

ROOM SETUP & ROLES

- Group tables for in-person delivery
- One facilitator per 5–6 teams if possible, or roving facilitators
- One “go-to” person for troubleshooting
- Printed or digital brief at each table
- Timer or visible agenda on screen
- Teams or Miro board for online sessions

WHAT TO SAY TO STUDENTS

“Today is not about getting it right. It’s about trying things, working together, and sharing ideas. You don’t need to have all the answers. You just need to show how you explored the problem and came up with something new.”

TIPS TO KEEP ENERGY HIGH

- Time-box each stage (15–30 mins)
- Use stretch breaks or energisers mid-way
- Visit each team, ask curious question
- Show example outputs from previous sessions
- Let teams name their idea
- If virtual, rotate mentors through breakout rooms

OPTIONAL: PANEL OR PRESENTATION ROUND

You can invite:

- Employers or alumni (eg through alumni network or Careers service)
- Staff from another module
- Student support staff or peers

Use online forms (MS Forms/Google Forms) or a short rubric to collect simple feedback. Feedback can focus on:

Clarity of idea

Creativity

Feasibility

Alignment with challenge

If unassessed, make the pitch light and encouraging. Use peer applause or simple feedback tags (e.g. stickers or “best idea for impact”).

FACILITATION RESOURCES

WHAT THIS SECTION HELPS YOU DO:

This section gives you the core tools and templates to help you confidently facilitate a hackathon session. It covers:

- The Double Diamond methodology used at Kingston (see editable slides)
- Sample session outline (see table below)
- **Editable student workbooks and slides**
- **Judging and presentation templates**

These resources can be mixed and matched depending on your class size, timing, and whether the hackathon is assessed.

SAMPLE SESSION OUTLINES

FORMAT	DURATION	STRUCTURE
Mini Hackathon	90 mins–2 hours	Intro > Brief > Teamwork > Share > Reflect > Link to module learning
One-Day Hackathon	3–6 hours	Intro > Double Diamond Workshop > Mentor rounds > Pitch or Poster Session > link to module learning
Multi-Week Hackathon	Spread across 3–6 weeks	Launch > Problem framing workshops > Mid-point check-in > Final showcase > link to module purpose and learning

STUDENT WORKSHEET TEMPLATES

These editable templates walk students through the Double Diamond in teams. They:

- Prompt brainstorming, role assignment, and research questions
- Include sections to map their solution ideas
- Can be adapted for different subjects or challenges

Tools:

- Editable PowerPoint workbook (individual or team-based)
- Google Docs or Miro board versions (for you to develop)
- Printable paper worksheets for in-person use (develop your own, or use from the PPT workbook)

PRESENTATION & JUDGING IDEAS

There are many ways of managing students when they are sharing their final solutions. You can run a light “pitch round” even if not assessed.

Possible presentation support includes:

- Student pitch outline (problem statement and research, idea and implementation, impact, next steps)
- Slide template for team presentations – e.g limit to 10 slides covering key issues as above
- Poster template (for display or online upload)

Judging & feedback options:

- Editable rubric (criteria like creativity, relevance, feasibility)
- Online feedback template (for panels or peer review)
- Sticker-style “award” tags (best idea, most practical, etc.)



ASSESSMENT & FEEDBACK

WHAT THIS SECTION HELPS YOU DO:

This section guides you through assessing hackathons in a way that aligns with module learning outcomes while recognising the collaborative, creative nature of the activity.

It helps you decide:

- Either to assess process, output, or both
- How to use peer review and mentor feedback fairly
- what assessment formats suit your hackathon
- how to use co-marking with panels or externals
- Support reflective practice
- How to Gather meaningful student feedback for continuous improvement

WHY ASSESS HACKATHONS?

- To recognise learning outcomes (skills, knowledge, attitudes).
- To evaluate the impact of solutions on SDG-related challenges.
- To ensure participation and motivation.
- To inform future improvements in hackathon design and facilitation.

CORE ASSESSMENT PRINCIPLES

- **Constructive alignment:** your assessment should reflect your learning outcomes and active pedagogy.
- Support a **range of outputs:** written, visual, oral or digital.
- **Be inclusive:** allow space for different student strengths, such as visual thinkers, communicators, planners.
- **Encourage reflection:** build in prompts or reflective activities so students can articulate what and how they learned.

WHAT YOU CAN ASSESS

1

PROCESS & PARTICIPATION

- Teamwork and collaboration
- Time Management and adaptability
- Problem-Solving Approach
- Task completion

2

SKILLS DEVELOPMENT

- Green and digital skills
- Critical thinking and creativity
- Communication and presentation

3

SOLUTION QUALITY

- Relevance to SDGs or other brief
- Innovation and feasibility
- Sustainability and scalability

FOCUS	EXAMPLES	NOTES
Process	Attendance, teamwork, collaboration, peer mentoring, critical thinking, problem-solving approach, engagement with community or stakeholders	Use peer review, self-assessment and mentor/partner assessment. Make sure to use facilitation notes to support marks. Attendance in class or engagement online can be monitored by students and/ or staff
Skills Development	Green and digital skills, critical thinking, problem-solving, creativity, design and system thinking, anticipatory thinking, communication, and presentation.	Look for the use of sustainable design principles, application of digital tools (e.g., data analysis, prototyping), and consideration of environmental and social impact in solutions. Use rubrics that can include criteria like sustainability, use of technology, and innovation, problem analysis and framing, originality of the solution Foster mentor feedback, as they can assess how well teams apply communication and presentation skills as well as more discipline-based skills. Ensure the use of project documentation, ask teams to explain their design choices and tools used.
Output	Poster, pitch deck, prototype, visual summary, written report	Include criteria like creativity, clarity, feasibility, relevance to SDGs, innovation and feasibility, sustainability, and scalability of the solutions. Develop rubrics for standardization and transparency.
Reflection	Individual submission: short video, post-event write-up, reflective blog	Provide reflection prompts such as: - Describe how you have approached the challenge and overcame obstacles. - What was the most important thing you learned about yourself during this hackathon, whether it was a skill, a mindset, or a way of working with others? - If you could take your team's solution forward, what would be your next step and what support would you need to make it happen? - Describe a moment during the hackathon when you felt you were making a real difference. How did that experience shape your confidence in your ability to create change? - How did participating in the hackathon deepen your understanding of your academic discipline or field of study? Describe a specific moment or task where you applied your disciplinary knowledge in a new or practical way.

EXAMPLES OF RUBRICS

PEER REVIEW & TEAM DYNAMICS

Peer review helps students take responsibility and reflect on group contribution. You can:

- Use simple MS Form or survey tool
- Ask teams to produce weekly contribution logs identifying what was assigned to each member and whether it was completed appropriately. Include these logs to individuate marks.
- Include qualitative reflection (e.g. what worked well in the team) with reference to specific events, activities, or actions.

Peer feedback can:

- Be formative (for feedback only)
- Contribute to an individual mark modifier (e.g. 10% weighting)

“Some students weren’t talkative during the event, but their reflections were brilliant. We just needed a different format.”

GROUP VS INDIVIDUAL ASSESSMENT

Group Mark:

- Pros: Encourages teamwork, reduces number of items to mark
- Cons: Risk of unfair weighting of different levels or type of contribution
- Needs transparency of individual effort and engagement to support fairness

Group Output + Individual Reflection:

- Can ensure greater fairness while celebrating team outcomes
- Cons: generative AI can create high-quality reflections
- May be included in a portfolio type assessment

Individual Report Based on Group Work:

- Encourages group work and associated skills building, while identifying individual achievement
- May be included in a portfolio assessment

NOT ASSESSED? CONSIDER COMPETITION & AWARDS

- Competitive element with prizes, perhaps provided by an external sponsor
- Certificates (use online templates)
- Electronic badges

JUDGING & EXTERNAL FEEDBACK

If you run presentations or panels:

- Use a short judging rubric (e.g. 4 criteria x 5 marks)
- Combine academic and external (alumni/employers) panels
- Feedback can be verbal, on paper, or submitted via online forms

Judging criteria examples:

- Problem understanding
- Creativity and originality
- Feasibility / relevance to real world
- Communication / clarity
- Completion of an output to time and brief

INSTITUTIONAL CONSIDERATIONS

- Any assessment must sit within the institution's academic framework
- Group assessments may require guidance from course leads
- Your institution's Teaching Enhancement Centre (like Kingston's LTEC) may have a module on Assessment Design for in-depth examples



SUSTAINABILITY & SDG INTEGRATION

WHAT THIS SECTION HELPS YOU DO:

This section supports you in embedding sustainability themes into your hackathon, with direct links to the UN Sustainable Development Goals (SDGs), Climate Pedagogy Toolkit, and wider social and environmental justice goals.

It includes:

- Example SDG-aligned challenges
- Tips for inclusive framing (justice, equity, relevance)
- Integration strategies from the Climate Pedagogy Toolkit

WHY INTEGRATE SUSTAINABILITY?

- Supports institutional Sustainability Plan and Efforts
- Engages students in global and local challenges
- Builds critical thinking, ethical reasoning, and systems awareness
- Makes learning purposeful and relevant

“Students found it easier to connect when the topic involves a real-world issue like climate, inclusion, or energy poverty. They had opinions, and they wanted to act.”



SDG-ALIGNED CHALLENGE EXAMPLES

Here are some prompts to guide your hackathon theme selection:

SDG FOCUS	SAMPLE CHALLENGE
Goal 3: Good Health & Wellbeing	Design a campus campaign that supports mental health and reduces stigma
Goal 11: Sustainable Cities	Propose ways to improve transport and accessibility in your local area
Goal 12: Responsible Consumption	Redesign student living to reduce food waste or plastic use
Goal 13: Climate Action	Create a prototype for engaging young people in local climate policies
Goal 16: Peace, Justice, Strong Institutions	Address racial or gender equity in a professional or academic setting

Use these as full briefs or adapt them to your subject area.

CLIMATE JUSTICE & INCLUSIVE FRAMING

Not all students relate to sustainability in the same way. To create inclusive, equity-driven challenges:

- Invite students to bring in their own contexts or experiences (e.g., regional impacts of climate change, cultural perspectives)
- Highlight who benefits and who is excluded in current systems
- Include social as well as environmental dimensions (e.g., housing, health, migration)
- Use framing questions like: “Who is affected most, and who is responsible?” or “Whose voices are missing in this problem?”

You can also include provocations or real-world guest speakers to help spark richer discussions.

MAPPING TO THE CLIMATE PEDAGOGY

To align with the Climate Change Pedagogy, aim to include activities that promote:

- **Systems Thinking:** Map out how causes and effects are connected
- **Values & Ethics:** Encourage discussion about fairness, future impact, and responsibility
- **Futures Thinking:** Ask students to imagine the long-term consequences of their solution
- **Action Competence:** Support students to feel confident they can create change

Example: During a sustainable fashion challenge, students reflected on their own consumption and proposed local clothing swaps, integrating both system critique and direct action.

Some examples of UN SDGs related topics for a hackathon:

Equitable Climate Resilience (SDG 13: Climate Action)

Students focus on exploring how climate change doesn't affect everyone equally. Marginalised communities, especially low-income, Indigenous, and historically underserved populations, often face the greatest risks from climate-related events like heatwaves, floods, and pollution, yet have the least access to resources for adaptation and recovery.

Solutions can focus on mitigating disadvantages or empowering vulnerable communities to adapt to climate change in a way that is just, inclusive, and sustainable. Solutions should address both environmental and social dimensions of climate resilience.

Food Waste Hackathon (SDG 12: Responsible Consumption and Production)

Participants design solutions to reduce food waste across the supply chain. It can be through a campus as a living lab approach, to support a business or a community group.

Solutions may include apps for food sharing, smart inventory systems, and awareness campaigns.

HealthTech Hackathons (SDG 3: Good Health and Well-being)

Focus on improving healthcare access, climate change health impacts, single-use plastic, or mental health support.

It often involves collaboration with health-related higher education programmes, hospitals, and NGOs.

Check out more about topics related to the UN SDGs and Climate Change in Kingston University toolkits:

[Education for Sustainability toolkit](#) 

[Climate Change Pedagogy](#) 

Other examples from across the globe:

If you want to join a bigger hackathon, or be inspired by, here are some examples of Hackathons from across the world:

Green Energy Hack (SDG 7: Affordable and Clean Energy)

Challenges include designing renewable energy solutions, improving energy access in remote areas, and optimizing energy efficiency.

Smart Cities Hackathon (SDG 11: Sustainable Cities and Communities)

Participants create tech-driven solutions for urban sustainability, such as green transport, waste management, and inclusive infrastructure.

Climathon (SDG 13: Climate Action)

- A global movement organized by EIT Climate-KIC.
- Participants develop local solutions to climate challenges in their cities.
- Focus areas include urban mobility, energy efficiency, and climate resilience.

Learn more: [Climathon | Power by Climate KIC](#) 

AquaHacking (SDG 6: Clean Water and Sanitation)

- A Canadian initiative focused on water-related issues.
- Teams work on challenges like water pollution, access to clean drinking water, and smart water management.

Learn more: [Aquahacking Challenges](#) 

Earth Hacks (Various Locations)

- Organized by Earth Hacks, a nonprofit focused on environmental innovation.
- Focus on Climate justice, biodiversity, and sustainable development.
- Approach: Encourages interdisciplinary teams to design equitable, community-centered solutions to environmental challenges.

Learn more: [Earth Hacks](#) 

EVALUATION & MONITORING

WHAT THIS SECTION HELPS YOU DO:

This section helps you evaluate your hackathon and continuously improve it over time, using feedback from students, staff, and external partners.

It includes:

- Templates and tools for gathering structured feedback
- Suggestions for reflective practice
- Guidance on how to iterate for future improvements

WHY EVALUATION MATTERS

- Shows the impact of the activity on learning and skills
- Provides evidence for reviews and module updates
- Builds staff confidence through learning what worked
- Surfaces inclusion, access, or engagement issues that might otherwise go unnoticed

“We adjusted the timetable and feedback prompts based on student MEQs that made the second delivery much smoother.”

FEEDBACK FORMS

For Students

Use short post-event surveys (MS Forms, Google Forms) with questions like:

- What was the most meaningful part of the hackathon?
- What challenges did you face, and how did you overcome them?
- What skills do you feel you have developed?
- What feedback would you like to improve the experience?

For Staff / Facilitators

Capture quick reflections:

- What went well in terms of logistics and engagement?
- Where did students need more support?
- Did the timing/format work?
- What feedback did students or partners share informally?

REFLECTIVE PROMPTS FOR FACILITATORS

Ask yourself (or discuss in a team debrief):

- Did the challenge feel meaningful and inclusive?
- Were students able to apply their learning?
- Was the group dynamic managed well?
- Did we meet the intended learning outcomes?
- Would I use this structure again, and why/why not?
- Document these insights soon after the event while details are fresh.

IMPROVING FUTURE ITERATIONS

- Use feedback data to refine the brief, schedule, or materials
- If attendance was low, review promotion or timing
- If engagement dropped mid-way, consider more mentor touchpoints
- Share improvements with colleagues to build confidence and reduce duplication of effort
- Keep updating your templates and toolkit materials

“Once we had a solid set of slides and templates, it was easy to tweak things without starting from scratch each time.”



TRAINING & PEER SUPPORT

WHAT THIS SECTION HELPS YOU DO:

This section offers ideas for staff training, peer support, and confidence-building strategies to help you feel prepared to run a hackathon, even if it's your first time.

It includes:

- Suggestions for onboarding new facilitators
- A “train-the-trainer” model
- Advice on where to get help and who to talk to

STAFF TRAINING IDEAS

1. Practical Workshops

- Run short internal workshops on hackathon delivery, ideally tied to curriculum planning cycles
- Include live demos of the Double Diamond or breakout exercises based on sample briefs

2. Peer Observations

- Invite new staff to shadow an existing hackathon session (in-person or online)
- Create opportunities to co-facilitate and reflect afterward

3. “First-Time Facilitator” Clinics

- Hold drop-in sessions before a term starts to troubleshoot common worries (group management, marking, etc.)
- Make it OK to ask “silly” questions

PEER MENTORING MODEL

Hackathons work best when facilitation is shared. Encourage peer support by:

- Pairing new and experienced staff (or alumni facilitators)
- Creating Teams groups during delivery weeks for check-ins and crowd-sourced fixes
- Using shared reflections or post-event debriefs to build collective confidence

“I wasn’t sure I could run it at first. But seeing how others broke it down gave me a path. Now I’ve supported someone else.”

WHERE TO GO FOR SUPPORT

- **HackCentre** or equivalent (to join or host a live brief with a real partner)
- **Enterprise Education team** or equivalent (for facilitation tips, tools, judging models)
- **Sustainability leads** (for SDG framing or embedding Green Skills)
- **Learning and Teaching Centres** or equivalent (for assessment alignment or Canvas integration)
- **Careers Centres** (for topics and enhanced employability skills development)
- **Development & Alumni Relations** teams or equivalent (for panel support or live briefs)
- **Knowledge Exchange and Commercialisation** (for live briefs and industry connections)

Use internal networks to crowdsource ideas, e.g. short write-ups, post-hack reflections, shared templates.



CASE STUDIES

The following case studies are from interview data collected from Kingston University academic staff involved in delivering hackathons across faculties. They illustrate real-world implementation, challenges, and outcomes.

WHAT THIS SECTION HELPS YOU DO

This section shares real examples of how hackathons have been successfully embedded across KU modules, highlighting their impact on student learning, module engagement, and staff development.

Use these stories to:

- Inspire your own design choices
- Understand different formats and approaches
- Build confidence by seeing how others adapted the model

EXAMPLE 1: SUSTAINABILITY FOR PROFESSIONAL PRACTICE (LEVEL 4)

Faculty: Engineering, Environment & Computing

Lead: P2

Format: Multi-week in-module hackathon using the Double Diamond and real campus challenges

Highlights:

- Interdisciplinary groups worked on real sustainability challenges from Kingston University Estates Team
- Multiple peer review checkpoints added accountability
- Students presented to external sustainability professionals
- Feedback from mentors informed module improvements the following year

“It was a learning curve for me too – I didn’t know Double Diamond before this, but now we map it directly into the assignments.”

EXAMPLE 2: CREATIVITY & ENTERPRISE MODULE (LEVEL 5)

Faculty: Business & Social Sciences

Lead: P4

Format: One-day co-curricular hackathon with employer input

Highlights:

- Hackathons used to launch projects that feed into Bright Ideas competition
- Employers set real-world problems for students to solve
- Students encouraged to link ideas to the UN SDGs
- Follow-up with Validate software deepens project thinking

“Hackathons are now just one cog in the wheel. Students start there but then move on to deeper thinking with Validate.”

EXAMPLE 3: SCHOOL-WIDE ENGAGEMENT HACKATHON

Faculty: Kingston School of Art

Lead: P3

Format: Two-day themed hackathon with broad school participation

Highlights:

- Themed around the cost-of-living crisis
- Mixed-discipline teams formed across programs
- Wide range of output formats allowed (from campaigns to product ideas)
- Shared judging panel included external designers and alumni

“Students got to collaborate outside their course for once, it made the experience richer and more relevant.”

TIPS FOR BUILDING YOUR OWN CASE STUDY

- Capture feedback from students and staff
- Note any alignment with assessment, SDGs
- Summarise key challenges and how you addressed them
- Share templates or facilitation tweaks you used

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