Tooling up for the 21st Century:Cross-Curricular Learning for Transition Year

MUINÍN CATALYST SUSTAINABLE STEAM

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MUINÍN CATALYST SUSTAINABLE STEAM

INTRODUCTION 01

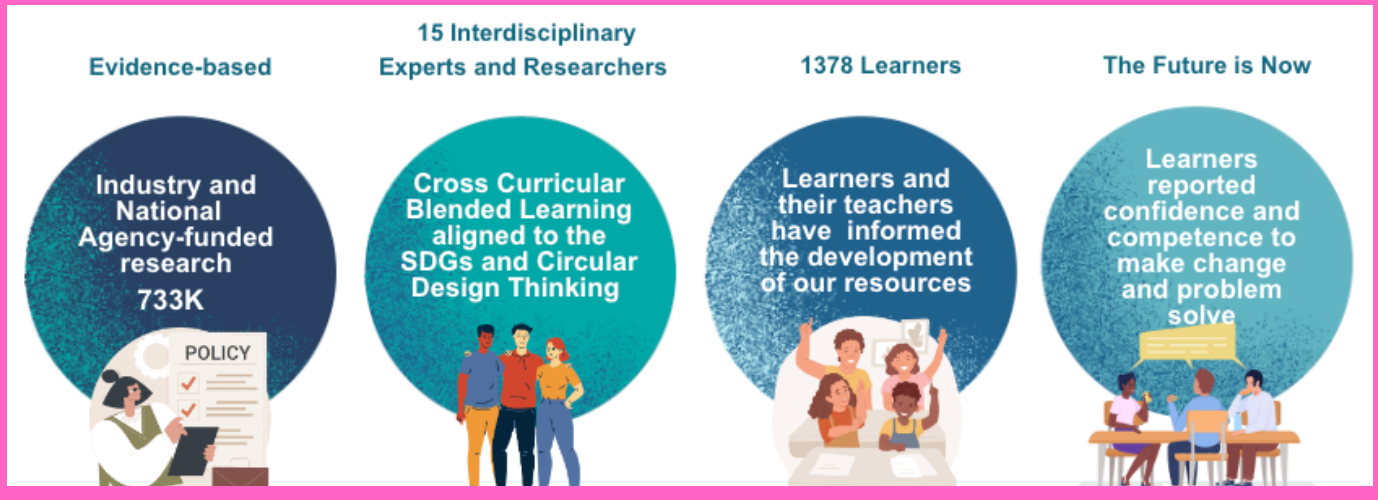
We utilise creative strategies and tactics grounded in place to provide deep learning through tangible, practical, evidence-based learning activities. By developing and harnessing learners' and educators' creativity for innovation and transferable innovative thinking, we facilitate 'Tooling education up for the 21st Century'.

Our aim is to contribute to an educational system that offers young people the space to be themselves and be included in any aspect of society they chose to be part of.

Our programmes integrate inclusive practices beyond just human perspectives. We encourage learners to recognise diversity and use design to encourage and support it.

MCSS KEY ELEMENTS

- **FREE to all post-primary schools**
- **Delivers cross-curricular UDL**
- **Aligned to the Sustainable Development Goals, Earth Charter**
- **Builds upon Junior Cycle SOLs**
- **Act as primers for upcoming changes to the Senior Cycle**
- **Are easily scalable to other age-appropriate levels incl. LCA and LCYP**
- **Support Green School flag applications**
- **Developed through Environmental Protection Agency & Industry funding**
- **Tried and tested over 4 years of research with teachers and learners**



PROGRAMME INTRODUCTION

Muinín Catalyst Sustainable STEAM is an exciting new project for 16 post primary schools in the Munster region 2022 - 2024.

It is fully funded by the Science Foundation Ireland and the Department of Education so FREE to all participating schools.

- UDL AND INCLUSIVE DESIGN
- EDUCATION FOR SUSTAINABLE DEVELOPMENT
- PROJECT-BASED LEARNING
- PLACE-BASED STEAM
- TIME COMMITMENT - ADAPTABLE LESSONS 40 MINS, 1 HR, 1 HR 20 MINS
- FLEXIBLE PROGRAMMES
- TEACHING AND LEARNING SUPPORT
- EASILY SCAFFOLDED FOR LCA, LCVP. JC / SC AND OTHER AGES

PROGRAMME BENEFITS

FOR STUDENTS

- Supports and encourages self-directed learning, critical thinking, collaboration, communication, and research skills
- Develops Design Thinking skills
- Develops active learners
- Increases local knowledge and connection to place
- Develops global knowledge
- Encourages enterprise and innovation
- Builds skills and competencies relevant to the 21st Century
- Makes STEM subjects more accessible
- Access to state of the art research and engagement with global case studies and researchers

FOR TEACHERS

- One project across learning areas = less planning in the long-term
- Built-in assessment opportunities
- Connections to Junior Cycle SOL and Senior Cycle skills framework
- Easily scaffolded to other programmes and ages e.g. LCA
- Transferable skills development
- Increased engagement and responsibility
- Teacher as facilitator
- Opportunistic professional development- CPD 'by doing' in class
- Access to state of the art research and engagement with global case studies and researchers
- Online peer support network

ADAPTABLE TO YOUR TIMETABLE

Our programmes are designed to align with existing timetables and teaching plans and we offer a planning session and monthly support to adapt lessons and programmes to your needs.

A standard lesson is 60 mins, with reduction / extension options of 40 / 80 min.

A micro-module averages 5 - 12 lessons.

A full unit is 7 micro-modules and can be delivered over 3 terms, ideally with a minimum of 2 - 3 teachers.

PROGRAMME OVERVIEW

FLEXIBLE PROGRAMMES

Teachers and learners need support if they are to meet their potential as well as prepare for the new societal, environmental, technological and economic challenges, which face us all. We will need creative, whole system, ethical thinkers and doers, with an ability to try new approaches and manage risk. Our programmes are designed to provide this support.

Our programmes have been developed by an interdisciplinary team of researchers, industry and civil society experts to insure your students have access to 21st Century knowlege, skills and competencies.

TO REGISTER YOUR INTEREST USING A SCHOOL EMAIL VISIT:
HTTPS://TINYURL.COM/REGISTERMCSS

ALL PROGRAMMES AND SUPPORT ARE FREE.

FOR A BRIEF OVERVIEW OF THE PROGRAMMES VISIT:
HTTPS://TINYURL.COM/MCSSPROGOVERVIEW

Climate Change Engage

Seeding Sustainability

Dream Designs

Marine Plastic Waste

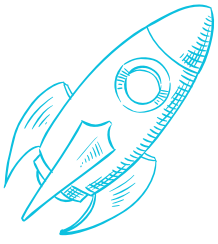
Future of the Ocean

Future of Food

Future of Enterprise and Innovation

Future of Fashion

Future of Space
Jan 2024



PROGRAMME OVERVIEW

UNIT AND LESSON STRUCTURE

Full year long units are divided into three phases that supports the learners' progress towards real-world themed solutions. Phases can also be delivered independently of one another, as selected micro-lessons or as individual lessons to complement your existing teaching plans.

PHASE 1
Research and Development

Micro module 1 - core circular design thinking module specific to theme

Micro modules 2 and 3 develop knowledge acquisition and application

These modules introduce learners to key concepts and STEAM skills

PHASE 2
Experimentation and Exploration

These modules develop learners' skills and competencies

This is achieved by practical application and experimentation

PHASE 3
Implementation

These modules support learners' real world project delivery

Media Communication for sharing their work

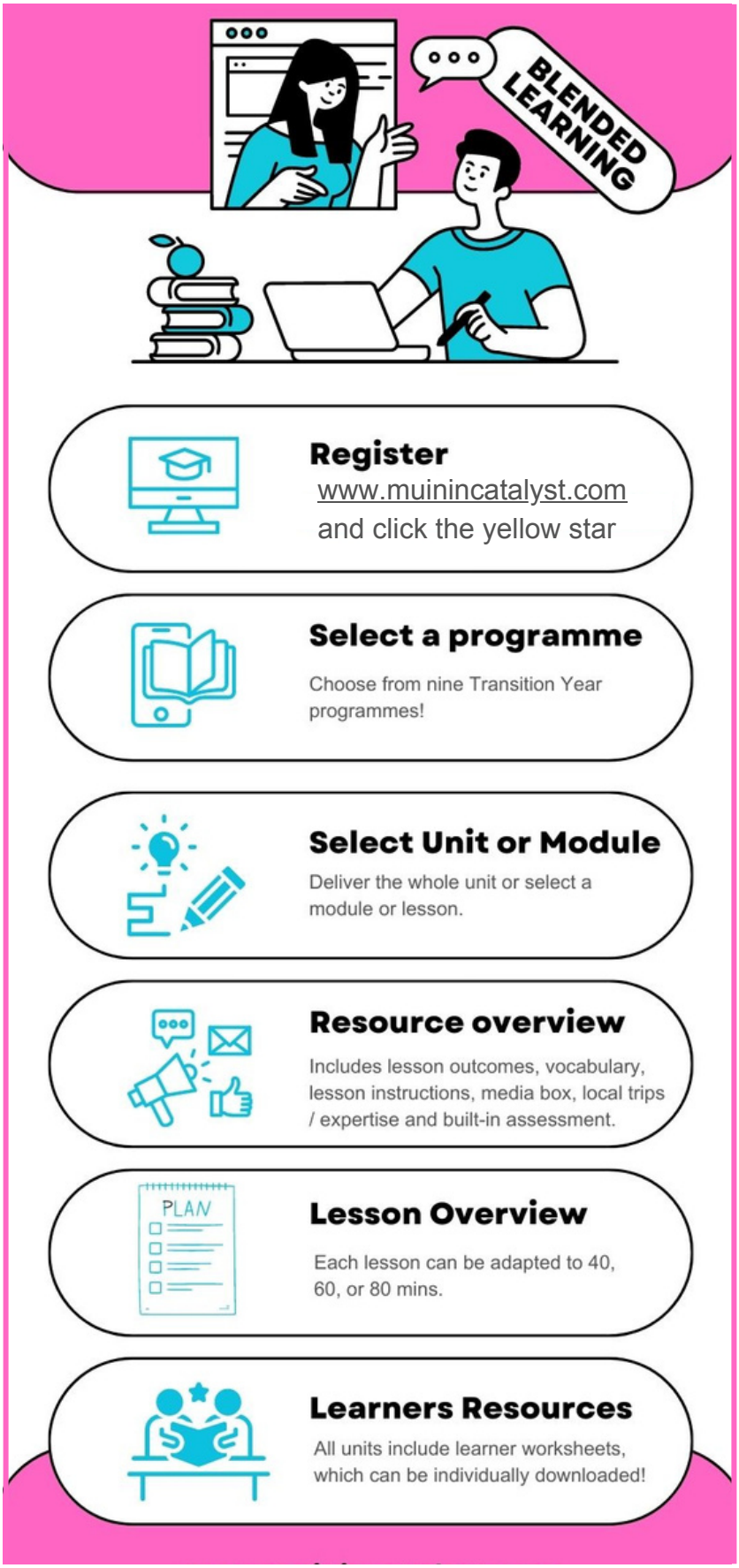
LESSON STRUCTURE

All lessons are devised as stand-alone, meaning you can deliver only one or a few lessons or the whole micro-module, TY unit (45 hrs) or full programmes. Lessons consist of the following parts:

- Lesson title and summary
- Vocabulary
- Learning outcomes
- Materials
- Activity instructions
- Reflective exercise
- Extension / reduction activities
- Media box
- Local trip / expertise
- Learner worksheets and teacher guides / answers

and can be delivered by any teacher no matter their subject knowledge or experience with project-based learning that integrates Universal Design for Learning, Circular Design Thinking, the Sustainable Development Goals and STEAM education.

HOW TO USE OUR RESOURCES



SAMPLE LESSONS

scan here to access lessons

FUTURE OF FOOD: FROM FOOD WASTE TO FOOD GAIN

This sample lesson is titled 'Combating Food Waste Together' and comes from our Future of Food programme. This is the 4th lesson in the micro-module From Food Waste to Food Gain which sits within Phase 1: Research and Development of the programme.

Within this lesson, learners will begin to understand the various solutions that can help mitigate food waste. Understanding the current concepts and solutions that exist today is an important step in deepening knowledge of key problems and opportunities, and identifying gaps in the market where new ideas could develop.

CLIMATE CHANGE ENGAGE

This sample lesson is titled 'Working with Nature: Nature-Based Solutions and Green Infrastructure' and comes from our Climate Change Engage unit. This is the 9th lesson of the unit.

Within this lesson, learners are introduced to the closely associated concepts of. nature-based solutions' and 'green infrastructure'. The lesson challenges learners to rethink how and why the places they are familiar with could and should be redesigned.

FUTURE OF THE OCEAN: MARINE PLASTIC WASTE

This sample lesson is titled 'Prototyping 1: Circular Design and the Life Cycle Analysis' and is from our Future of the Ocean programme. This is the 9th lesson in the micro-module Problem to Pitch which sits in the Marine Plastic Waste unit.

Within this lesson, learners are asked to consider a product case study for its sustainability and learn how to break down the 'system' in which the design / product is part of. Learners will then apply this skill to thinking about their own possible ideas by undertaking a life cycle analysis by considering the inputs processes and inputs involved.

CORE TEAM

DR. ANITA MCKEOWN

MCSS Co- Lead
Anita.McKeown@ucd.ie

REBECCA WHITE

MCSS Co-Lead
Rebecca.White@ucd.ie

DR. JESSICA GARSKA

Project/Content Manager
Jessica.Garska@ucd.ie

EXTERNAL EXPERTISE

Our External Experts are brought on to develop our programmes through creating modules, micro-modules and lessons. We engage with external experts to bring contemporary and real-life knowledge to Transition Year resources. By working with these experts, we can ensure that our resources include future-focused learning and innovative ideas to expose learners to world-leading experts and their work in a digestible and accessible format. Learners are encouraged to critically think about and engage with knowledge and content in a learner-led and project-based manner.

TARA BAOTH MOONEY

SMARTlab Sligo
Artist and Designer

DR. CATHY FITZGERALD

Haumea Ecoversity
Founder

LARA HANLON

Portion Collaborative

Founder

TAMARA HOCHSTRASSER

University College Dublin

Assistant Professor, School of Biology and Environmental Science

LUCY HUNT

Sea Synergy

Founder. / Director

DR. AURA ISTRATE

University College Dublin

Assistant Professor, School of Architecture, Planning and Environmental Policy

DR. JENNIFER KEENAHAN

University College Dublin

Assistant Professor, School of Civil Engineering

DR. COLIN KEOGH

University College Dublin

Researcher and Lecturer, School of Mechanical and Materials Engineering

DR. MICHAEL LENNON
University College Dublin
Assoc. Professor, School of Architecture, Planning and Environmental Policy

JAMES MCCARTHY
Independent
Landscape Architect

DR. TARA O'NEIL
SMARTLab Niagra / OCADU
Chief Innovation Officer / Adjunct Professor

BIANCA PEEL
Bianca Peel Consultancy
Founder

DR. RODRIGO PÉREZ GARCÍA
Polyhedra.eu / Inova DE GmbH
Co-founder / Innovation Officer

DR. PAULA RUSSELL
University College Dublin
Lecturer, School of Architecture, Planning and Environmental Policy

KILLIAN STOKES

Proudly Made in Africa

CEO and Co-Founder Moyee Coffee

ELEANOR TURNER

SMARTlab UCD

PhD Candidate, Community led Biodiversity Action

Future Focus TwentyOneC

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Scan for more info