IYABOKO 20-Law Science & Technology Education Programme

Systems Thinking, Evidence, Readiness and Responsible Innovation Across Six Future-Facing Fields

Product Classification

Multidisciplinary STEM curriculum-support programme, teacher resource system and project-based learning package for schools, colleges and universities.

Developed by

IYABOKO Science & Technology – Software & Hardware
Queensland, Australia

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1. Executive Overview

The **IYABOKO 20-Law Science & Technology Education Programme** is an integrated learning system designed to help students understand how scientific evidence, systems thinking, technology readiness, responsible innovation and continuity principles can be applied to complex real-world challenges.

The programme introduces learners to the IYABOKO 20-Law framework and applies it across six future-facing science and technology fields:

1. Space Science and Technology
2. Energy Science and Continuity
3. Environment and Opuu Science
4. Health and Biotechnology
5. Quantum Networks and Secure Communications
6. Financial Security and Digital Trust

The programme is designed as **one master education product with three differentiated editions**:

- School Edition
- College and Applied Technology Edition
- University and Research Edition

Each edition uses age-appropriate language, learning outcomes, activities, assessments and project requirements while maintaining one consistent educational framework.

The programme supports classroom learning, STEM enrichment, project-based learning, teacher professional development, research preparation and institutional innovation programmes.

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2. Professional Product Name

IYABOKO 20-Law Science & Technology Education Programme

Recommended public tagline

Twenty principles. Six future-facing fields. One structured pathway for responsible science and technology learning.

Alternative short product name

IYABOKO Future Science Curriculum

Institutional product descriptor

A multidisciplinary curriculum-support and project-based learning system for developing scientific reasoning, evidence literacy, systems thinking, technology-readiness awareness and responsible innovation capability.

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3. Educational Purpose

The programme is designed to help learners move beyond passive knowledge acquisition.

Students are guided to:

- Define real-world problems clearly.
- Identify systems, components and relationships.
- Distinguish evidence from assumptions.
- Understand continuity, change, thresholds and risk.
- Evaluate scientific and technical claims.
- Organise observations and data.
- Develop models and simulations.
- Consider ethical and governance boundaries.
- Design responsible solution concepts.
- Communicate findings clearly.
- Prepare evidence-based project proposals.
- Understand the stages between an idea, a prototype and an operational system.

The programme does not teach students that every idea should immediately become a physical product. It teaches that responsible technology development requires evidence, testing, review, iteration and appropriate professional oversight.

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4. Educational Positioning

The programme should initially be described as:

- A curriculum-support package
- A multidisciplinary STEM enrichment programme
- A project-based learning resource
- A systems-thinking education programme
- A future science and technology learning package
- A teacher-guided innovation framework
- A research-readiness education resource
- A professional-development resource for educators

Until formally reviewed and approved by the relevant authorities, it should not be described as:

- An accredited curriculum
- A registered qualification
- A government-approved subject
- A recognised professional certification
- A replacement for established science curricula
- A substitute for qualified teachers, laboratories or regulated training

The IYABOKO 20 Laws should be presented transparently as a **proprietary educational and systems-thinking framework**. They do not replace established scientific laws, accepted scientific methods or discipline-specific knowledge.

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5. Core Educational Philosophy

The programme is built around five educational commitments.

5.1 Evidence before claims

Students learn to identify what is known, what is assumed, what remains uncertain and what evidence would be required to support a conclusion.

5.2 Modelling before implementation

Learners are encouraged to use diagrams, calculations, simulations, small experiments and controlled prototypes before proposing operational deployment.

5.3 Systems before isolated answers

Students examine how components, environments, people, risks, resources and decisions interact within a wider system.

5.4 Responsible boundaries

Every activity requires learners to identify safety, ethics, privacy, environmental, engineering, legal or professional boundaries.

5.5 Progression through readiness

Students learn that an idea can move through defined stages:

Question → evidence → concept → model → simulation → prototype → review → controlled implementation

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6. The 20-Law Learning Architecture

The exact names and definitions of the 20 IYABOKO Laws should remain consistent across all editions. However, their depth, terminology and assessment requirements should change according to the learner level.

The 20 Laws can be organised into four educational strands.

Strand A — Continuity and Systems

Students examine:

- Essential functions
- System components
- Interdependence
- Resources
- Stability
- Continuity requirements
- Failure and recovery

Strand B — Evidence and Measurement

Students examine:

- Observation
- Data
- Measurement
- Baselines
- Signals
- Variables
- Uncertainty
- Traceability

Strand C — Thresholds, Risk and Boundaries

Students examine:

- Limits
- Thresholds
- Hazards
- Anomalies
- Responsible-use boundaries
- Safety
- Ethics
- Governance

Strand D — Reform and Responsible Innovation

Students examine:

- Change
- Adaptation
- Iteration
- Multidirectional pathways
- Technology readiness
- Simulation
- Prototype development
- Review and improvement

Each law should use one consistent lesson structure:

1. Law title
2. Plain-language meaning
3. Scientific and systems context
4. Real-world example
5. Six-sector application examples
6. Classroom activity
7. Evidence question
8. Risk and boundary question
9. Reflection task
10. Assessment activity

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7. Six Applied Learning Areas

7.1 Space Science and Technology

Core Lab connection

Space OS — FlightCore Lab

Learning themes

- Astronomy and space environments
- Mission concepts
- Spacecraft systems
- Orbital awareness
- Telemetry
- Navigation
- Space debris
- Communication
- Energy requirements
- Simulation
- Mission risk
- Responsible aerospace development

Example student challenge

Design a non-operational mission concept for observing an environmental or astronomical phenomenon.

Students must identify:

- Mission purpose
- Required evidence
- Major spacecraft subsystems
- Communication requirements
- Energy requirements
- Environmental risks
- Simulation priorities
- Ethical and governance boundaries
- Conditions required before further development

Responsible boundary

Activities remain educational and non-operational. The programme does not provide certified aerospace engineering, flight software, launch approval or mission-control capability.

7.2 Energy Science and Continuity

Core Lab connection

Energy OS — Energy Continuity Lab

Learning themes

- Solar energy
- Batteries
- Energy storage
- Backup systems
- Microgrids

- Energy efficiency
- Resilience
- Demand and supply
- Community energy
- Environmental impact
- Prototype planning
- Installer and engineering preparation

Example student challenge

Develop an energy-continuity concept for a school, community centre or remote facility.

Students must examine:

- Current energy demand
- Essential loads
- Renewable-energy opportunities
- Storage requirements
- Backup options
- Environmental conditions
- Safety risks
- Cost assumptions
- Evidence gaps
- Professional review requirements

Responsible boundary

Activities do not replace licensed electrical design, installation, engineering certification or regulatory approval.

7.3 Environment and Opuu Science

Core Lab connection

Environment OS — Enature / Opuu Environment Lab

Learning themes

- Water
- Land
- Air quality
- Oxygen and atmospheric balance
- Breathable-environment context
- Biodiversity
- Soil
- Geology
- Fire
- Mining context
- Restoration
- Climate resilience

- Environmental monitoring

Opuu Science is presented as IYABOKO's multiphysics oxygen and atmospheric-balance learning pathway.

Example student challenge

Investigate the environmental continuity of a selected local place.

Students may examine:

- Water availability
- Soil condition
- Air-quality context
- Oxygen-flow considerations
- Vegetation
- Fire exposure
- Biodiversity
- Human activity
- Mining or land-use context
- Restoration opportunities
- Monitoring indicators

Responsible boundary

The programme does not replace environmental-impact assessment, laboratory testing, ecological certification, mining approval or certified life-support engineering.

7.4 Health and Biotechnology

Core Lab connection

Health & Biotech OS — BioContinuity Evidence Lab

Learning themes

- Biological systems
- Health evidence
- Research questions
- Literature review
- Data governance
- Privacy
- Ethics
- Biotechnology concepts
- Laboratory readiness
- Prototype review
- Scientific claims
- Human-review requirements

Example student challenge

Prepare an evidence map for a non-clinical biotechnology or public-health research question.

Students must identify:

- Research question
- Current evidence
- Conflicting findings
- Data requirements
- Ethical issues
- Privacy considerations
- Experimental limitations
- Required specialist expertise
- Claims that cannot yet be made

Responsible boundary

The programme does not provide diagnosis, treatment, clinical recommendations, medical devices, laboratory validation or human research approval.

7.5 Quantum Networks and Secure Communications

Core Lab connection

Quantum Net OS — Quantum Net Readiness Lab

Learning themes

- Information systems
- Networks
- Encryption
- Post-quantum risk
- Secure routing
- Communication architecture
- Satellite-linked networks
- Quantum concepts
- Simulation metrics
- Cybersecurity awareness
- Evidence boundaries
- Future technology claims

Example student challenge

Design a conceptual future secure-communication network for a research organisation.

Students must consider:

- Information flows
- Users

- Access controls
- Current security risks
- Post-quantum concerns
- Network architecture
- Failure scenarios
- Simulation requirements
- Privacy
- Specialist-review requirements

Responsible boundary

The programme does not create an operational quantum network or provide certified cybersecurity protection.

7.6 Financial Security and Digital Trust

Core Lab connection

Financial Security OS — IYAMEGE Security Lab

Learning themes

- Digital identity
- Cybersecurity awareness
- Distributed records
- Blockchain concepts
- Smart contracts
- Auditability
- Threat modelling
- Data integrity
- Governance
- Compliance
- Financial literacy
- Responsible digital systems

Example student challenge

Design a digital-record concept for tracking a school, community or research asset.

Students must identify:

- Authorised users
- Identity requirements
- Data fields
- Record ownership
- Security risks
- Audit requirements
- Privacy boundaries
- Error-correction processes
- Governance responsibilities

- Conditions required before real implementation

Responsible boundary

The programme does not provide financial custody, investment advice, legal advice, financial licensing or certified cybersecurity services.

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8. Three Education Editions

8.1 School Edition

Intended learners

Upper primary and secondary school students, adapted by year level.

Educational approach

- Plain-language explanations
- Visual learning
- Teacher-guided discussion
- Safe classroom demonstrations
- Group problem-solving
- Local examples
- Creative design
- Introductory data interpretation
- Reflection and communication

Package contents

- Teacher handbook
- Student workbook
- Twenty lesson units
- Six sector introduction modules
- Classroom presentation slides
- Printable activity sheets
- Safe experiment guides
- Group challenge cards
- Vocabulary glossary
- Quizzes
- Reflection journals
- Assessment rubrics
- Final STEM challenge
- Certificate template

Recommended final project

The IYABOKO School Continuity Challenge

Students identify a real problem in their school or community and develop an evidence-based solution concept.

8.2 College and Applied Technology Edition

Intended learners

Senior secondary, vocational, technical, community-college and applied-learning students.

Educational approach

- Case studies
- Technical problem definition
- Evidence collection
- Risk registers
- Requirements development
- System diagrams
- Technology-readiness exercises
- Prototype concepts
- Team project management
- Industry-context assignments

Package contents

- Lecturer and trainer guide
- Applied student workbook
- Twenty advanced learning units
- Six sector project modules
- Technology-readiness templates
- Evidence matrix
- Risk and boundary register
- Requirements worksheet
- Prototype-planning guide
- Simulation-planning template
- Project presentation deck
- Assessment tasks
- Marking rubrics
- Industry challenge pack

Recommended final project

The IYABOKO Applied Technology Readiness Project

Students develop a structured readiness pack for a selected technology concept.

8.3 University and Research Edition

Intended learners

Undergraduate students, postgraduate students, research students and interdisciplinary project teams.

Educational approach

- Scientific literature review
- Research design
- Data analysis
- Systems architecture
- Modelling
- Simulation
- Falsification
- Uncertainty analysis
- Ethics
- Governance
- Research communication
- Technology-readiness assessment

Package contents

- Academic facilitator guide
- Research student handbook
- Twenty advanced principle units
- Six discipline application modules
- Literature-review framework
- Research-question template
- Evidence and assumptions matrix
- Data-governance checklist
- Simulation design framework
- Technology-readiness assessment
- Ethics and claim-boundary review
- Capstone-project guide
- Academic presentation template
- Research-poster template
- Assessment rubrics

Recommended final project

The IYABOKO Multidisciplinary Research and Technology Capstone

Students prepare a research or technology-readiness dossier that can support academic supervision, industry discussion or further investigation.

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9. Learning Outcomes

After completing an appropriate edition, learners should be able to:

Scientific reasoning

- Formulate a clear scientific or technical question.
- Distinguish observations, assumptions and interpretations.
- Identify variables and measurable indicators.
- Explain uncertainty and evidence limitations.
- Evaluate the strength of a claim.

Systems thinking

- Identify components and relationships within a system.
- Explain continuity requirements and failure conditions.
- Recognise thresholds, dependencies and feedback.
- Develop system maps and architecture diagrams.
- Consider multiple development pathways.

Technology readiness

- Distinguish an idea from a model, simulation, prototype and operational system.
- Identify evidence required for progression.
- Prepare preliminary requirements.
- Recognise professional, safety and regulatory review needs.
- Develop a responsible next-step roadmap.

Responsible innovation

- Identify ethical, environmental, privacy and safety considerations.
- Define appropriate claim boundaries.
- Recognise when qualified professional judgement is required.
- Consider affected communities and stakeholders.
- Communicate limitations transparently.

Communication and collaboration

- Work effectively in multidisciplinary teams.
- Maintain clear project records.
- Present findings visually and verbally.
- Respond constructively to review.
- Revise a concept using new evidence.

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10. Standard Lesson Design

Every lesson should follow a repeatable professional structure.

Lesson opening

- Learning objective
- Key vocabulary

- Prior knowledge
- Real-world question

Concept development

- IYABOKO principle
- Scientific context
- Sector example
- System diagram
- Evidence discussion

Applied activity

- Individual or group task
- Observation or data collection
- Model, calculation or simulation
- Boundary and risk analysis
- Documentation

Learning review

- Evidence question
- Systems-thinking question
- Responsible-use question
- Reflection
- Short assessment

Extension

- Advanced reading
- Cross-sector connection
- Research question
- Technology-readiness challenge

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11. Assessment Framework

The programme should use both formative and summative assessment.

Formative assessment

- Classroom questioning
- Learning journals
- Concept maps
- Evidence tables
- Short quizzes
- Peer review
- Teacher observations
- Draft project work

- Reflection tasks

Summative assessment

- Written report
- Systems diagram
- Evidence matrix
- Risk and boundary register
- Simulation or experiment plan
- Technology-readiness assessment
- Oral presentation
- Poster
- Group project
- Capstone dossier

Recommended assessment dimensions

1. Problem definition
2. Scientific understanding
3. Evidence quality
4. Systems thinking
5. Measurement and data
6. Risk awareness
7. Responsible boundaries
8. Creativity and design
9. Communication
10. Reflection and improvement

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12. Teacher and Lecturer Resources

The education package should give educators everything required to deliver the programme confidently.

Core educator resources

- Complete facilitator handbook
- Programme overview
- Learning outcomes
- Lesson plans
- Suggested schedules
- Presentation slides
- Discussion prompts
- Activity instructions
- Model answers
- Assessment rubrics
- Differentiation guidance
- Accessibility guidance
- Safety notes

- Glossary
- Recommended reading
- Professional-development module

Teacher professional development

A separate educator programme should introduce:

- The 20-Law educational framework
- Six applied learning areas
- Systems-thinking methods
- Evidence literacy
- Project-based learning
- Technology-readiness concepts
- Responsible AI use
- Assessment and moderation
- Safe classroom implementation

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13. Student Resources

The student package should include:

- Illustrated learning handbook
- Twenty law worksheets
- Six sector workbooks
- Learning journal
- Evidence-record template
- Systems-mapping template
- Risk and boundary worksheet
- Project-planning template
- Simulation or experiment planner
- Presentation template
- Final-project workbook
- Personal reflection and skills record

Digital editions may later include:

- Interactive lessons
- AI-supported study rooms
- Readiness calculators
- Digital quizzes
- Teacher dashboards
- Progress tracking
- Evidence portfolios
- Downloadable certificates

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14. Recommended Delivery Models

Institutions should be able to select from several delivery options.

Classroom module

Delivered as part of science, technology, engineering, digital technology or interdisciplinary learning.

STEM enrichment programme

Delivered as a short programme, innovation week, science club or extension activity.

Semester programme

Delivered over one school or academic term with formal assessment.

Project-based intensive

Delivered as a focused challenge over several days or weeks.

Teacher professional development

Delivered to educators before institutional implementation.

Institution-wide licence

Provides multiple teachers or departments with approved resources and implementation support.

Facilitated pilot

Delivered jointly by the institution and IYABOKO under a defined pilot scope.

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15. Commercial Product Structure

The programme should be sold as one master education system with separate editions.

Product 1 — School Classroom Pack

Includes:

- Teacher handbook
- Student worksheets
- Twenty introductory units
- Six sector modules

- Classroom activities
- Quizzes
- Final STEM challenge

Product 2 — Secondary STEM Programme

Includes:

- Extended student workbook
- Applied sector challenges
- Data and systems activities
- Assessment tasks
- Project presentation package

Product 3 — College Applied Technology Pack

Includes:

- Technical case studies
- Readiness tools
- Evidence matrices
- Requirements templates
- Prototype-planning activities
- Industry challenge project

Product 4 — University Research Pack

Includes:

- Research framework
- Literature-review tools
- Evidence and assumptions matrix
- Simulation-planning resources
- Ethics and governance review
- Capstone dossier

Product 5 — Educator Professional Development Pack

Includes:

- Facilitator course
- Delivery guidance
- Assessment moderation
- Responsible-use training
- Implementation certificate

Product 6 — Institutional Licence

May include:

- Multi-user access
- Annual updates
- Teacher resources
- Student resources
- Digital platform access
- Implementation support
- Reporting templates
- Institutional recognition

Product 7 — Facilitated Workshop or Pilot

May include:

- Needs assessment
- Educator briefing
- Student workshop
- Final project review
- Implementation report
- Recommendations for expansion

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16. Quality and Governance Framework

The programme should be governed through:

- Version-controlled curriculum materials
- Named authorship and review responsibility
- Subject-matter review
- Teacher review
- Age-appropriateness review
- Accessibility review
- Safety review
- Ethics and responsible-use review
- Clear source attribution
- Copyright controls
- Feedback and revision procedures
- Incident and concern reporting
- Privacy and student-data boundaries

Where specialist topics are included, materials should be reviewed by appropriately qualified educators or professionals.

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17. Current Product Status

Recommended public status statement

The IYABOKO 20-Law Science & Technology Education Programme is currently in the curriculum-framework and educational-resource development stage.

The programme is being prepared as a multidisciplinary STEM, systems-thinking and responsible-innovation education package for schools, colleges and universities.

Initial development includes:

- Master curriculum architecture
- Three education-level editions
- Six applied science and technology areas
- Learning outcomes
- Lesson structure
- Assessment framework
- Teacher resources
- Student resources
- Institutional implementation model
- Responsible-use boundaries

The programme is not currently represented as an accredited qualification or government-approved curriculum.

Future progression should include:

1. Teacher and academic consultation
2. Curriculum mapping
3. Subject-matter review
4. Small educational pilot
5. Student and educator feedback
6. Resource revision
7. Institutional partnership development
8. Formal accreditation or recognition assessment where appropriate

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18. Institutional Value Proposition

The programme offers institutions a structured way to connect traditional STEM learning with future-facing technology contexts.

It can help institutions:

- Strengthen interdisciplinary STEM learning.
- Develop evidence and data literacy.
- Introduce responsible AI-supported learning.

- Improve project-based learning.
- Build systems-thinking capability.
- Connect science with real-world challenges.
- Teach technology readiness and risk awareness.
- Support student research preparation.
- Encourage ethical and responsible innovation.
- Create pathways for industry and university engagement.

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19. Public Description

The IYABOKO 20-Law Science & Technology Education Programme is a multidisciplinary curriculum-support system for schools, colleges and universities.

It helps learners apply systems thinking, evidence, measurement, readiness, risk and responsible innovation across six future-facing areas: Space, Energy, Environment, Health and Biotechnology, Quantum Networks and Financial Security.

Through lessons, activities, simulations, case studies and project-based challenges, students learn how to move from an early idea to an evidence-supported and responsibly bounded technology concept.

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20. Flagship Programme Promise

We do not teach students simply to imagine the future.

We teach them how to define a problem, examine the evidence, understand the system, identify the risks, test the concept and communicate a responsible pathway forward.