Global AI Certification Council

GAICC RAIGP

Robotic AI Governance Professional

Course Curriculum

v1.1 | 2026



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Issued	30 October 2026
Programme	4 instructor-led days | 32 contact hours | 32 CPD
Modules	32 modules across 8 examination domains
Blueprint	GAICC RAIGP Examination Content Outline, v1.1 (GAICC-ECO-RAIGP-001)
Prepares for	GAICC RAIGP examination: 100 items | 150 minutes | 70% pass
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Course Curriculum

GAICC Robotic AI Governance Professional (RAIGP) · 4 instructor-led days · 32 contact hours · 32 CPD

This curriculum is derived directly from the RAIGP Examination Content Outline. Every module states the examination domain and the specific competencies it teaches, and Section 4 proves that all 40 published competencies are covered. Contact hours are allocated in proportion to examination weighting, adjusted where a domain needs more teaching time than its exam weight implies.

Annex A carries the reference library the programme teaches from, with the status of every standard and instrument as at the issue date, and Annex B the regulatory horizon to 2030. Both are teaching and maintenance resources held here rather than in the Examination Content Outline, which stays a blueprint for the examination alone. They are the trigger list for content updates.

The programme is designed for a mixed cohort. Candidates from AI governance backgrounds meet the machinery safety regime for the first time in Domain II; candidates from functional safety and robotics backgrounds meet learned control, assurance of machine-learnt behaviour and AI regulation for the first time in Domains I, III, V and VIII. Applied activities pair the two backgrounds deliberately.

1 Programme structure

Day	Theme	Domains	Modules	Hours
Day 1	**Architecture and Physical Safety**	I, II	9	8
Day 2	**Risk and Human Oversight**	III, IV	9	8
Day 3	**Assurance, Security and Data**	V, VI	8	8
Day 4	**Operations, Liability, Regulation and Scale**	VII, VIII	6	8
	Total	I to VIII	**32**	**32**

2 Contact hours against examination weighting

Domain	Title	Exam weight	Contact hours	Share of taught time
I	Embodied AI Systems and Robot Architecture Literacy	12%	3 h	10.3%
II	Physical Safety Governance and the Machinery and Product Regime	15%	4 h	13.8%
III	Risk, Hazard and Impact Assessment for Embodied AI	14%	4 h	13.8%
IV	Human Oversight, Control and Human-Robot Interaction	13%	4 h	13.8%
V	Assurance, Safety Cases, Verification and Validation	13%	4 h	13.8%
VI	Cybersecurity, Data and Supply Chain Governance for Robots	11%	3.5 h	12.1%
VII	Operations, Incident Response, Liability and Insurance	11%	3.25 h	11.2%
VIII	Regulatory Landscape, Sector Regimes and Enterprise Scaling	11%	3.25 h	11.2%
	Orientation, consolidation and mock examination	-	3 h	-
	Total	**100%**	**32 h**	**100%**

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Domain I is taught in 3 hours against a 12% exam weight because architecture literacy is enabling knowledge rather than assessed judgement, and much of it is reinforced inside the Domain II and Domain V exercises. Domains II, III, IV and V carry equal teaching time because each introduces a discipline that half the cohort has never practised. Domains VII and VIII are taught in 3.25 hours each, 10.2% of the 32 hours, against 11% exam weight, because they build on competencies established earlier in the week. Module 0 takes a full hour because it also carries the credential, examination and GAICC orientation candidates need before Day 1 content begins.

3 Module detail

Each module lists its examination domain, the competency codes it teaches, its learning outcomes and its applied activity. Module codes are the file-naming key for slides, handouts and quizzes.

1 Day 1: Architecture and Physical Safety — 8 hours

Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M00	**Orientation: GAICC, the credential, the examination and the embodied shift** › Describe GAICC, the ISO/IEC 17024:2026 basis its schemes are designed against (GAICC is preparing for accreditation by IAS and is not yet accredited) and where RAIGP sits in the credential landscape and on the Implementation Roadmap › State the examination format, domain weightings, eligibility, training routes and recertification › Explain why AI that moves mass through the physical world requires a different governance model from AI that only outputs › Navigate the four-day programme and the study resources provided **Applied:** Scene setter: three real robot failures (a robotaxi post-collision manoeuvre, a wormable humanoid vulnerability, a maintenance-mode crushing fatality) and which examination domain would have caught each	-	-	1
RAIGP-M01	**Classifying robots and autonomous systems for governance** › Apply ISO 8373 vocabulary and distinguish the robot classes and the regime each attracts › Classify degree of autonomy and operating environment from segregated to domestic › Build a robot and fleet registry entry with owner, risk tier, autonomy level, operational design domain and oversight mode **Applied:** Classification clinic: tier ten real deployments (cobot cell, AMR fleet, humanoid pilot, robotaxi, delivery drone, surgical robot, home humanoid, agricultural robot, patrol robot, warehouse arm) by class, environment and regime	I	I.A	0.75
RAIGP-M02	**The robot stack and the safety layer** › Read the sense, perceive, plan, control and actuate pipeline and locate where AI decides and where deterministic control decides › Distinguish safety-rated functions from performance functions and identify the safety layer › Treat kinetic energy, reach, payload and speed as governance variables **Applied:** Architecture teardown: find where the AI decides, where the safety controller decides, and whether the two are actually independent	I	I.B	0.75

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Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M03	**Learned policies, robot foundation models and the operational design domain** › Distinguish classical modular control from end-to-end learned policies and vision-language-action models, and apply the three ISO/IEC TR 5469 configurations › Govern deployer fine-tuning, demonstration data and on-device adaptation as changes to behaviour › Specify an operational design domain and govern its expansion as change control **Applied:** Workshop: write the operational design domain for a humanoid moving totes in a shared warehouse aisle, then debate whether its foundation model is a general-purpose AI model	I	I.C, I.D	**1**
RAIGP-M04	**Fleets, connectivity and teleoperation architectures** › Distinguish standalone, fleet-managed, cloud-dependent and edge-only architectures and their safety dependence on connectivity › Identify teleoperation, remote assistance and human data collection loops › Map architecture choice to accountability across manufacturer, integrator, operator, cloud and teleoperation providers **Applied:** Accountability map for a robotaxi fleet and an AMR fleet: who is responsible when the link drops	I	I.E	**0.5**
RAIGP-M05	**Machinery risk assessment and robot safety standards** › Apply ISO 12100 hazard identification, risk estimation and three-step risk reduction to a robot application › Apply ISO 10218-1 and 10218-2:2025, ISO 3691-4, R15.08 and ISO 13482 and identify where each is silent › Own residual risk acceptance as a documented governance decision **Applied:** Challenge an anonymised collaborative robot application risk assessment; decide whether residual risk is acceptable, then sign or refuse in writing	II	II.A, II.B	**1.25**
RAIGP-M06	**Reading functional safety claims** › Read performance level and safety integrity level claims for each safety function › Distinguish IEC 60204-1 stop categories 0, 1 and 2 and their meaning for a person near the robot › Identify a safety function that depends on a learned component and explain why it falls outside existing standards **Applied:** Reading exercise: a supplier safety data sheet and integrator validation report; find the unevidenced claim	II	II.C	**0.75**

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Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M07	**Conformity assessment, the Machinery Regulation and market placement** › Apply the EU Machinery Regulation 2023/1230 from 20 January 2027, including Annex I Part A machinery with self-evolving safety components › Distinguish manufacturer, integrator, importer, distributor and user obligations, and when a deployer becomes the manufacturer › Govern CE marking, technical documentation, notified body involvement and substantial modification, and apply equivalent regimes outside the EU **Applied:** Decision tree: does this humanoid application need a notified body, and who signs the declaration of conformity after the deployer retrains it	II	II.D	1
RAIGP-M08	**Workplace health and safety, worker consultation and Day 1 consolidation** › Apply workplace safety duties, lockout-tagout and ISO 45001 to robot deployment › Govern maintenance, testing, commissioning and teach modes as the highest-risk states › Consult workers and their representatives, set competence requirements and report injury and near miss data with integrity **Applied:** Case study: the maintenance-mode crushing fatality and the robot-paced warehouse; write the controls that would have prevented each, then Day 1 blueprint review	II	II.E	1

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2 Day 2: Risk and Human Oversight — 8 hours

Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M09	**The embodied AI risk taxonomy** › Classify perception, planning and policy, control, oversight, cyber and organisational failure › Classify hazards by kinetic energy, reversibility, detectability and time to harm › Distinguish fault-based hazards from performance insufficiency hazards and route each to the correct control **Applied:** Sorting exercise: 20 real incidents (robotaxi, warehouse, humanoid, surgical, drone and consumer robot cases) onto the taxonomy, then to the owning control	III	III.A	1
RAIGP-M10	**Hazard analysis for autonomy: STPA, HAZOP and SOTIF** › Commission and challenge STPA for a human and robot system, including unsafe control actions by software and by people › Use HAZOP, FMEA, FTA and HARA outputs in governance decisions › Build a triggering-condition inventory for a perception-driven robot **Applied:** STPA workshop: control structure and unsafe control actions for a mobile robot sharing an aisle with pickers	III	III.B	1
RAIGP-M11	**Learned-policy and foundation-model risk** › Assess distribution shift, edge cases and unknown unsafe scenarios in learned physical behaviour › Assess prompt injection and adversarial input paths into language-directed robots › Set an explicit risk appetite for physical autonomy by class and environment **Applied:** Red-flag drill: find the injection paths into a language-directed service robot, then draft the organisation's risk appetite statement for physical autonomy	III	III.C	0.75
RAIGP-M12	**Embodied AI impact assessment** › Extend ISO/IEC 42005 style impact assessment to physical harm, workplace and public impact › Assess impact on bystanders, children, older people and people with disabilities › Apply proportionality between autonomy granted and assurance required **Applied:** Template build: impact assessment for a patrol robot in a public shopping centre	III	III.D	0.75
RAIGP-M13	**Robotic risk in enterprise risk management** › Extend the AI risk register to robot and fleet risk types and scoring › Define severity classification and escalation triggers for physical incidents and near misses **Applied:** Worked example: a fleet risk register row end to end, then the board aggregation	III	III.E	0.5

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Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M14	**Meaningful human oversight for physical autonomy** › Distinguish human in the loop, on the loop and out of the loop for robots and fleets › Apply EU AI Act Article 14 principles and ISO/IEC TS 8200 controllability to embodied systems › Identify oversight that is nominal and assess supervisor capacity, reaction time and automation bias **Applied:** Critique: four oversight designs, which would survive a regulator and which would survive a coroner	IV	IV.A	**0.75**
RAIGP-M15	**Stop, fallback and containment** › Specify emergency stop, protective stop and safe state design, reachability and testing › Define minimal risk condition and minimal risk manoeuvre, geofencing and safety envelopes with runtime monitoring › Specify who may halt a robot or a fleet, by what mechanism and within what time **Applied:** Tabletop: the humanoid is mid-task and behaving wrongly near people, stop it; then the robotaxi has driven into a smoke-filled fire scene, define its minimal risk condition	IV	IV.B	**1**
RAIGP-M16	**Teleoperation and remote assistance** › Distinguish direct teleoperation, remote assistance, supervision and fleet monitoring › Set operator-to-robot ratios, latency limits, handover and authority rules, and govern operator competence and fatigue › Govern human data collected through teleoperation and disclose the human in the loop honestly **Applied:** Write the teleoperation operating rules for a home humanoid service: ratios, latency, disclosure, cross-border operators and data	IV	IV.C	**0.75**
RAIGP-M17	**Human-robot interaction, collaborative work, public and care settings, Day 2 consolidation** › Treat the choice of collaborative operation method as a governance decision and address deskilling, over-trust and mode confusion › Govern robot-set work pace, ergonomic and psychosocial hazards › Govern anthropomorphism, deception, recording and dignity for robots among children, older people and the public **Applied:** Build an autonomy promotion ladder for a service robot moving from segregated to public operation, with graduation and demotion criteria, then Day 2 blueprint review	IV	IV.D, IV.E	**1.5**

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3 Day 3: Assurance, Security and Data — 8 hours

Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M18	**Building and challenging the safety case** › Apply UL 4600 and structured argument notations (GSN, CAE) to an autonomous product › Apply AMLAS and SACE style arguments to machine-learnt components › Find the claim with no evidence, the assumption with no monitor and the argument that is asserted rather than demonstrated **Applied:** Safety case canvas for one robot, peer reviewed; each reviewer must find one unevidenced claim	V	V.A	1.25
RAIGP-M19	**Verification, validation and simulation credibility** › Define acceptance criteria for behaviour in the physical world, not only model accuracy › Apply scenario-based testing, simulation, digital twins and physical testing in proportion to risk › Govern simulation credibility and require coverage across the full operational design domain **Applied:** Write a verification and validation specification a vendor can be held to, including vulnerable road user and edge case coverage	V	V.B	1
RAIGP-M20	**Evaluation and red teaming of physical AI** › Commission semantic safety and refusal evaluation for language-directed robots › Scope red team engagements for adversarial input, prompt injection, sensor spoofing and unsafe action, with physical safety controls › Interpret findings, set remediation thresholds and require re-testing before autonomy promotion **Applied:** Red team planning exercise, then read a findings report and decide go or no-go	V	V.C	0.75
RAIGP-M21	**Change control, fleet learning and independent assessment** › Govern over-the-air software and policy updates as safety-relevant change control with independent verification before closure › Distinguish self-declaration, second-party assessment, third-party certification and notified body assessment › Define safety performance indicators and commission independent safety case assessment **Applied:** Change-control drill: the vendor pushes a policy update that changes school zone behaviour; decide what must be verified, by whom, before the fix is declared closed	V	V.D, V.E	1

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Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M22	**Robot cybersecurity, physical security and misuse** › Apply IEC 62443 zones, conduits, security levels and roles, and the ISO 10218:2025 cybersecurity requirement › Threat-model robot-specific attack surfaces: wireless provisioning, middleware, teleoperation links, cloud and physical ports › Apply Cyber Resilience Act reporting and full obligations, control physical access and tampering, and prevent misuse and repurposing of general-purpose robots **Applied:** Threat model a quadruped and a humanoid against IEC 62443 zones, using the wormable provisioning vulnerability as the worked case, then add the physical access and misuse controls	VI	VI.A, VI.E	**1**
RAIGP-M23	**The robot data lifecycle, logging and evidence integrity** › Inventory robot data and govern training, validation and teleoperation datasets › Apply data protection law to robots that record people, including data protection impact assessment › Specify minimum event logging, protect log integrity and align retention with limitation periods **Applied:** Write a logging and data specification, then test it against three audit questions and one litigation disclosure request	VI	VI.B, VI.C	**1.25**
RAIGP-M24	**Supply chain, provenance and third parties** › Conduct due diligence on manufacturers, integrators, component and model providers and cloud and teleoperation vendors › Require software bills of materials, hardware provenance and import and export compliance, including Covered List-style restrictions › Set contractual requirements for updates, disclosure timelines, audit rights and continuity, and monitor third parties in production **Applied:** Due diligence questionnaire and contract markup for a humanoid supplier: software bill of materials, disclosure service levels, update obligations, telemetry egress and provenance	VI	VI.D	**1.25**
RAIGP-M24R	**Day 3 consolidation and domain review** › Consolidate Domains V and VI against the examination blueprint **Applied:** Timed domain review questions with rationale walkthrough	-	-	**0.5**

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4 Day 4: Operations, Liability, Regulation and Scale — 8 hours

Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M25	**Fleet operations and incident response for physical events** › Define the fleet operating model, safety performance indicators and drills › Sequence scene safety, medical response, isolation, evidence preservation, fleet-wide containment, remediation and disclosure › Determine whether the same behaviour is live elsewhere in the fleet and act **Applied:** Live tabletop: a warehouse robot has struck a worker; the same software release runs on 400 robots across six sites	VII	VII.A, VII.B	1.25
RAIGP-M26	**Notification, recalls, liability and insurance** › Apply reporting obligations across workplace, product safety, AI Act, Cyber Resilience Act, medical device and vehicle regimes, and manage software recalls › Apply the EU Product Liability Directive 2024/2853 and common law theories to learned and updated systems › Draft contractual allocation, update obligations and indemnities, and assess insurance cover and underwriting prerequisites **Applied:** Contract and insurance clinic: allocate liability for a learned-policy update that caused harm, then mark up the supply agreement	VII	VII.C, VII.D	1.25
RAIGP-M27	**Learning from incidents** › Conduct post-incident review focused on control structure and oversight design rather than operator blame › Feed findings into the risk register, safety case, control set and autonomy levels, and report systemic findings to the board **Applied:** STPA-based post-incident review of a robotaxi fix that was declared closed and then failed again; write the systemic findings	VII	VII.E	0.75
RAIGP-M28	**Applying AI regulation, sector regimes and jurisdictions to robots** › Apply EU AI Act classification and the amended timeline to robots, including Annex I Section B machinery and general-purpose AI model obligations › Apply medical, autonomous vehicle, uncrewed aircraft, agricultural and defence regimes at the level a governance professional needs › Apply United States, China, Korea, Japan, Singapore, United Kingdom, Australia and New Zealand regimes and international instruments **Applied:** Jurisdiction and regime mapping for one humanoid platform deployed in a factory, a hospital and a shopping centre across the EU, the United States and Korea	VIII	VIII.A, VIII.B, VIII.C	1.75

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Module	Title and learning outcomes	Dom	Competencies	Hrs
RAIGP-M29	**Management system mapping, scaling robot governance and advising the board** › Map ISO/IEC 42001 clauses and Annex A controls onto the robot lifecycle and integrate with ISO 45001, ISO 9001, ISO/IEC 27001 and IEC 62443 › Operate a robot and fleet registry and apply the GAICC Maturity Model and Implementation Roadmap to a robot portfolio › Track standards and regulatory development, report portfolio risk to the board and escalate where authority granted exceeds assurance held **Applied:** Board pack build: five slides on the robot portfolio, presented and challenged	VIII	VIII.D, VIII.E	**1.5**
RAIGP-MOCK	**Full mock examination and debrief** › Sit a full-length 100-item mock under examination conditions › Review domain-level performance and target remaining revision **Applied:** Timed mock examination followed by rationale-led debrief	-	-	**1.5**

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4 Examination blueprint coverage matrix

Every one of the 40 competencies published in the RAIGP Examination Content Outline is mapped to the module that teaches it. No competency is examined without being taught, and no module teaches content outside the blueprint.

I Embodied AI Systems and Robot Architecture Literacy — 12%

Competency	Taught in	Day
I.A Classify robots and autonomous systems for governance	RAIGP-M01	1
I.B Interpret the robot stack and the safety layer	RAIGP-M02	1
I.C Govern learned control policies and robot foundation models	RAIGP-M03	1
I.D Govern the operating environment and operational design domain	RAIGP-M03	1
I.E Assess fleets, connectivity and teleoperation architectures	RAIGP-M04	1

II Physical Safety Governance and the Machinery and Product Regime — 15%

Competency	Taught in	Day
II.A Apply the machinery risk assessment discipline	RAIGP-M05	1
II.B Govern robot safety standards compliance	RAIGP-M05	1
II.C Read and challenge functional safety claims	RAIGP-M06	1
II.D Govern conformity assessment and market placement	RAIGP-M07	1
II.E Integrate workplace health and safety obligations	RAIGP-M08	1

III Risk, Hazard and Impact Assessment for Embodied AI — 14%

Competency	Taught in	Day
III.A Apply an embodied AI risk taxonomy	RAIGP-M09	2
III.B Commission hazard analysis for autonomy	RAIGP-M10	2
III.C Assess learned-policy and foundation-model risk	RAIGP-M11	2
III.D Conduct embodied AI impact assessment	RAIGP-M12	2
III.E Integrate robotic risk into enterprise risk management	RAIGP-M13	2

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IV Human Oversight, Control and Human-Robot Interaction 13%

Competency	Taught in	Day
IV.A Design meaningful human oversight for physical autonomy	RAIGP-M14	2
IV.B Govern stop, fallback and containment	RAIGP-M15	2
IV.C Govern teleoperation and remote assistance	RAIGP-M16	2
IV.D Govern human-robot interaction and collaborative work	RAIGP-M17	2
IV.E Govern robots in public, domestic and care settings	RAIGP-M17	2

V Assurance, Safety Cases, Verification and Validation 13%

Competency	Taught in	Day
V.A Build and challenge the safety case	RAIGP-M18	3
V.B Commission verification and validation	RAIGP-M19	3
V.C Direct evaluation and red teaming of physical AI	RAIGP-M20	3
V.D Govern change: updates, fleet learning and regression	RAIGP-M21	3
V.E Obtain and use independent assessment and certification	RAIGP-M21	3

VI Cybersecurity, Data and Supply Chain Governance for Robots 11%

Competency	Taught in	Day
VI.A Govern robot cybersecurity as a safety precondition	RAIGP-M22	3
VI.B Govern the robot data lifecycle	RAIGP-M23	3
VI.C Govern logging, traceability and evidence integrity	RAIGP-M23	3
VI.D Govern supply chain, provenance and third parties	RAIGP-M24	3
VI.E Govern physical security, tampering and misuse	RAIGP-M22	3

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VII Operations, Incident Response, Liability and Insurance 11%

Competency	Taught in	Day
VII.A Operate the robot and fleet governance model	RAIGP-M25	4
VII.B Execute incident response for physical events	RAIGP-M25	4
VII.C Manage regulatory notification, recalls and investigations	RAIGP-M26	4
VII.D Allocate liability and manage insurance	RAIGP-M26	4
VII.E Learn from incidents and near misses	RAIGP-M27	4

VIII Regulatory Landscape, Sector Regimes and Enterprise Scaling 11%

Competency	Taught in	Day
VIII.A Apply AI regulation to robots	RAIGP-M28	4
VIII.B Apply sector regimes	RAIGP-M28	4
VIII.C Apply jurisdictional regimes beyond the EU	RAIGP-M28	4
VIII.D Apply management system standards to robotic operation	RAIGP-M29	4
VIII.E Scale robot governance and advise the board	RAIGP-M29	4

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5 Delivery requirements

5.1 Instructor competence

Instructors must hold GAICC RAIGP, or hold GAICC AAIGP or CPAIG plus demonstrable practical experience governing, integrating or assuring robots or autonomous systems in production, or hold a recognised functional safety credential (for example CMSE, TÜV Functional Safety Engineer, CFSE or CFSP, UL-CASP) plus CPAIG, and must be authorised under the GAICC Certified Instructor programme. Domains II, IV and V require an instructor who has operated, integrated or audited real robot deployments; theoretical familiarity is not sufficient. Domain II content must be reviewed by a functional safety practitioner before first delivery by any partner.

5.2 Class materials

Asset	Per module	Notes
Slide deck	1 PPTX	16:9, GAICC branded, closing Key Takeaways slide, speaker notes written as narration for the GAICC video pipeline, in-house vector figures only
Class handout	1 PDF	Instructor-facing, full slide detail with notes
Student handout	1 PDF	Candidate-facing, note capture space
Module quiz	1 XLSX	Formative only, 20 items including 5 multi-response, answer key and rationale naming the competency tested; the live examination is single best answer
Workbook	1 PDF for the programme	Tri-modal: before, during and after training, with domain review checklists and the applied artefact templates
Mock examination	1 XLSX	100 items to the live blueprint, separate item pool from the live examination
Case library	1 PDF for the programme	The verified incident and deployment cases used across modules, each with source, date and the domain it teaches; instructors must not add unverified cases

5.3 Assessment during the course

Each module closes with a formative quiz. Each day closes with a consolidation review against the examination blueprint. Day 4 closes with a full-length timed mock examination followed by a rationale-led debrief and a domain-level performance report so candidates can target revision before sitting the live examination.

5.4 Applied activities and take-home artefacts

The programme is built around applied work rather than lecture. Candidates leave with completed artefacts they can take back to their organisation: a robot and fleet registry entry, an operational design domain specification, an accountability map, a signed or refused residual risk decision, a conformity assessment decision tree, an STPA control structure, an embodied AI impact assessment, an autonomy promotion ladder, a teleoperation operating rule set, a safety case canvas, a verification and validation specification, a change-control record, a logging and data specification, a supplier due diligence questionnaire and contract markup, a physical incident response playbook, a jurisdiction and regime map, and a board reporting pack.

5.5 Scheme facts and factual accuracy

All scheme facts taught in Module 0 and referenced elsewhere (examination format, eligibility, routes, recertification, framework layer names, maturity levels and roadmap phases) must be taken from the current Examination Content Outline, Candidate Handbook and gaicc.org, never from memory or summary notes. Training and package prices must not appear anywhere in course material.

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6 Case library

The programme teaches from verified real-world cases. Each case below is used in at least one module and is documented in the programme case library with its primary source and the date the facts were verified (13 September 2026). Instructors present cases as documented and do not add or embellish facts. Where a case is still under investigation or appeal, the instructor says so.

Case	What it teaches	Domains
Cruise robotaxi, San Francisco (October 2023)	Post-collision manoeuvre dragged a pedestrian; incomplete disclosure to regulators; permits suspended; NHTSA consent order (2024); operations wound down (2024)	III, VII
Uber ATG, Tempe (2018; NTSB report 2019)	Automation complacency, inadequate safety risk assessment and safety culture; the template for post-incident governance review	IV, VII
Tesla Autopilot, Key Largo (2019; verdict August 2025, upheld February 2026)	Oversight and interface design, marketing versus operating domain, crash data disclosure; US$243 million verdict	IV, VII
Tesla FSD investigations (NHTSA, 2024 to 2026)	Reduced-visibility perception degradation and crash reporting; engineering analysis across millions of vehicles	III
Waymo school bus passes, Austin (2025) and software recall (December 2025)	A fix declared closed then failing again; independent verification before closure	V, VII
Waymo, Santa Monica (January 2026)	Child struck at low speed near a school; context-aware speed policy as a governance choice	IV
Zoox, Las Vegas (June 2026) and recall (July 2026)	Robotaxi entered a smoke-filled fire scene; teleoperator reversed it out; emergency scene protocols	IV, V
Industrial robot fatality, Goseong, Korea (November 2023)	Maintenance and diagnostic mode as the highest-risk state	II
Tesla Giga Texas robot injury (2021, reported 2023) and Palermo's Pizza fatality, Wisconsin (September 2025)	Legacy machine safety discipline, lockout-tagout and guarding in AI-era factories	II
Amazon fulfilment robots (2019 to 2025 injury data, OSHA citations, Senate HELP interim report)	Robot-set work pace, ergonomic hazard and injury data integrity	II, IV
Unitree H1 incidents, China (2025)	Demonstration and test rig hazards; power-on states and hazard zones sized to full joint torque	I, IV
Unitree CloudSail tunnel (CVE-2025-2894) and UniPwn (September 2025); FCC Covered List (July 2026); US Department of Defense 1260H listing (June 2026)	Wormable provisioning vulnerability, undisclosed remote access, vendor disclosure failure; cyber posture now drives market access	VI, VIII
RoboPAIR (2024 to 2025)	Language-directed robots jailbroken into harmful physical actions; action-level guardrails independent of the language model	III, V
iRobot training images (2020, reported 2022) and Ecovacs Deebot hacks (2024)	Training data supply chain, annotator access, unpatched consumer robot vulnerabilities	VI

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Case	What it teaches	Domains
Da Vinci adverse event analysis (2015 to 2025, MAUDE)	Rare event rates multiplied by very high volume; platform-specific surveillance before autonomy	V, VIII
Amazon Prime Air MK30 crane strikes, Arizona (October 2025)	Airspace obstacle change management; aviation investigation practice	VIII
BMW Spartanburg humanoid pilot (2025) and Waymo independent safety case audits (November 2025)	Positive cases: a bounded pilot with published output data, and independent assessment against ISO/IEC 15026-2 and industry best practice	V, VIII

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Annex A: Reference library and status

This annex is a teaching and content-maintenance resource. It lists the standards, regulation and framework assets the programme teaches from, with the status of each as at 13 September 2026. It is not an examination reference list: the Examination Content Outline and its performance indicators are the sole blueprint, and candidates are never examined on clause numbers or on the text of any standard.

Instructors use this annex to keep teaching current and to answer the question candidates ask most often, which is what a claim of conformity actually evidences and where a standard is silent. GAICC reviews the annex at least annually and after any material change in a listed instrument, and the review drives the content update cycle for slides, handouts and quizzes.

Robot and machinery safety standards

Reference	Status (September 2026)	Teaching relevance
ISO 12100:2010 Safety of machinery. General principles for design. Risk assessment and risk reduction	Published; revision in progress	The legal backbone of machinery risk assessment; residual risk acceptance is a governance decision
ISO 10218-1:2025 and ISO 10218-2:2025 Robotics. Safety requirements. Industrial robots and robot applications	Published February 2025; absorbs ISO/TS 15066 collaborative content; adds robot classes and safety-related cybersecurity; harmonisation under EU law pending	Primary robot safety reference; the application, not the robot, is collaborative
ISO/TS 15066:2016 Collaborative robots	Published; to be revised; ISO/AWI 15066-1 biomechanical thresholds registered 2025	Source of power and force limiting thresholds
ANSI/A3 R15.06-2025 (Parts 1 to 3) and ANSI/A3 R15.08 (Parts 1 to 3) Industrial robots and industrial mobile robots	Published; R15.06-3 user responsibilities (2025); R15.08-3 user requirements (2026); R15.08-2 addresses fleets	United States adoption; the only published text on robot fleets and user duties
ISO 3691-4:2023 Driverless industrial trucks and their systems	Published; revision at DIS stage	Manufacturer and user responsibility model for AGVs and AMRs
ISO 13482:2014 Personal care robots	Published; revision as Safety requirements for service robots at FDIS stage (registered July 2025)	Default reference for robots around the public
ISO/CD 25785-1 Safety requirements for dynamically stable industrial mobile robots	Committee draft; comment period closed July 2026; industrial scope only	First humanoid-relevant safety standard; does not cover public spaces
ISO/CD 26264-1 Humanoid robot datasets. General requirements	Committee draft (2026)	First robotics standard on training data governance for embodied AI
ISO 8373:2021 Robotics. Vocabulary	Published; revision at DIS stage	Definitions that determine regulatory scope
ISO 13849-1:2023, IEC 62061:2021 and IEC 61508 (Edition 2, 2010)	Published; IEC 61508 Edition 3 expected 2027	Performance level and safety integrity level claims; none address learned safety functions
IEC 60204-1:2016 Electrical equipment of machines	Published	Stop categories 0, 1 and 2

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Reference	Status (September 2026)	Teaching relevance
IEC 80601-2-77:2019 and IEC 80601-2-78:2019 Robotically assisted surgical and rehabilitation equipment	Published; second editions at DIS stage 2026; IEC TR 60601-4-1 degree of autonomy	Medical robot safety and autonomy classification
ISO 18497 series (2024) Agricultural machinery. Partially automated, semi-autonomous and autonomous machinery	Published	Autonomous operating zone governance model
UL 4600 Edition 3 (2023) Evaluation of Autonomous Products; UL 3300 and UL 3100	Published	Safety case standard for autonomous products; North American service robot and mobile platform certification
ISO 21448:2022 Safety of the intended functionality; ISO/PAS 8800:2024 Road vehicles. Safety and artificial intelligence; ISO/TS 5083:2025	Published; ISO 21448 and ISO/TS 5083 revisions initiated; ISO/PAS 8800 to progress to a full standard	Performance insufficiency hazards and the only published safety lifecycle for machine-learnt components
ISO 34503:2023 and PAS 1883:2025 Operational design domain taxonomy; ISO 34502:2022 Scenario-based safety evaluation	Published	Operational design domain specification and scenario-based testing
ISO 21384-3:2026 Uncrewed aircraft systems. Operational procedures	Published August 2026	Operator-side governance for uncrewed aircraft

AI governance and assurance standards

Reference	Status (September 2026)	Teaching relevance
ISO/IEC 42001:2023 AI management system	Published	Organisational spine of robotic AI governance; Annex A controls map onto the robot lifecycle
ISO/IEC 42005:2025 AI system impact assessment; ISO/IEC 23894:2023 AI risk management; ISO/IEC 42006:2025	Published	Impact and risk assessment extended to physical harm; requirements for AIMS certification bodies
ISO/IEC TR 5469:2024 Functional safety and AI systems; ISO/IEC TS 22440 (Parts 1 to 3)	TR published; TS 22440 at committee draft stage, publication expected 2027	The three configurations of AI and safety functions; the coming requirements-level text
ISO/IEC TS 8200:2024 Controllability of automated AI systems; ISO/IEC 5338:2023 AI lifecycle	Published	Human oversight, control transfer and lifecycle vocabulary
IEEE 7001-2021 Transparency of autonomous systems; IEEE 7009-2024 Fail-safe design; IEEE 7007-2021; IEEE 2863 (approved June 2026)	Published	Measurable transparency, fail-safe expectations, ethics ontology and organisational AI governance
BS 8611:2023 Ethical design and application of robots	Published	The only robot-specific ethical hazard catalogue
NIST AI Risk Management Framework 1.0 and profiles	Published; revision under way (2026)	Govern, Map, Measure and Manage functions applied to robotic risk
ISO/IEC 15026-2 Systems and software assurance. Assurance case	Published	Basis for independent assessment of safety cases
CEN-CENELEC JTC 21 harmonised standards for the EU AI Act (EN 18286 and the prEN 18228, 18229, 18282 to 18285 series)	First publications targeted from Q4 2026; standardisation request deadline 28 February 2027; none yet cited in the Official Journal	Presumption of conformity for AI Act requirements; bridge to Machinery Regulation AI requirements

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Cybersecurity standards

Reference	Status (September 2026)	Teaching relevance
IEC 62443 series Security for industrial automation and control systems	Published; 2024 to 2026 updates	Zones, conduits, security levels and role split across the robot supply chain
ISO/SAE 21434:2021 Road vehicles. Cybersecurity engineering	Published; second edition in development	Threat analysis and risk assessment practice reused by robot manufacturers
ETSI EN 303 645 Cyber security for consumer Internet of Things	Published (V3.1.3, 2024)	Baseline for consumer and domestic robots
EU Cyber Resilience Act harmonised standards (EN 40000 series)	In development; none yet cited in the Official Journal	Security by design and vulnerability handling for products with digital elements

Regulation and international instruments

Reference	Status (September 2026)	Teaching relevance
Regulation (EU) 2024/1689 Artificial Intelligence Act, as amended by Regulation (EU) 2026/1744 (the Digital Omnibus on AI)	In force; Annex III obligations apply from 2 December 2027 and Annex I product obligations from 2 August 2028; Machinery Regulation moved to Annex I Section B with AI requirements to be inserted by delegated act	Classification of robots, deployer duties, general-purpose AI model obligations, serious incident reporting
Regulation (EU) 2023/1230 Machinery Regulation	Applies from 20 January 2027; Annex I Part A includes safety components with self-evolving behaviour using machine learning; first harmonised standards list expected Q4 2026	Conformity assessment, notified body involvement and cybersecurity essential requirements for robots
Directive (EU) 2024/2853 Product Liability Directive	Applies to products placed on the market from 9 December 2026	Software and AI as products, presumptions of defect, disclosure of evidence, substantial modification through updates or learning
Regulation (EU) 2024/2847 Cyber Resilience Act	Vulnerability and incident reporting obligations from 11 September 2026; full application from 11 December 2027	Connected robots as products with digital elements
EU Medical Device Regulation 2017/745; FDA guidance on predetermined change control plans (2024), AI-enabled device software functions (draft 2025) and generative AI-enabled devices (discussion paper, August 2026)	In force; FDA guidance evolving	Surgical and rehabilitation robots
UNECE global regulation on automated driving systems (adopted June 2026); NHTSA AV Framework (2025 to 2026) and Standing General Order; UK Automated Vehicles Act 2024	Adopted or in force; UK full framework expected late 2027	Autonomous vehicle approval, in-service monitoring and crash reporting
United States: OSHA General Duty Clause and lockout-tagout; FCC Covered List addition of foreign-produced advanced robotic devices (Public Notice DA 26-786, 28 July 2026); state AI laws (Colorado SB 26-189 effective 1 January 2027, Texas, California)	In force or scheduled	Workplace safety, supply chain provenance and state-level obligations

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Reference	Status (September 2026)	Teaching relevance
China: Humanoid Robots and Embodied Intelligence Standards System (2026 edition); Cybersecurity Law amendments (effective 1 January 2026); Interim Measures for generative AI; AI content labelling measures	In force or in development	Standards architecture and obligations for the largest humanoid market
Korea AI Basic Act (in force 22 January 2026); Japan AI Promotion Act (2025) and AISI Guide to Safety Evaluation Perspectives on AI Robotics (July 2026); Singapore Model AI Governance Framework for Agentic AI (2026)	In force or published	High-impact AI duties; the first national guide dedicated to robot AI safety evaluation
Australia Guidance for AI Adoption (2025); New Zealand Responsible AI Guidance (2025); Canada, India and other jurisdictions relying on existing law	Published	Reliance on workplace, consumer and privacy law for robots
OECD AI Principles (2024 update); Council of Europe Framework Convention on AI; UN Global Dialogue on AI Governance; CCW Group of Governmental Experts on lethal autonomous weapons	Adopted; CCW Review Conference November 2026	International principles and the awareness-level defence context

GAICC framework assets

Reference	Status (September 2026)	Teaching relevance
GAICC AI Governance Framework (gaicc.org/ai-governance-framework)	Published	Five accountability layers, the Direct, Assess, Operate, Improve loop, the nine control domains and the tenth, Agentic and Autonomous AI
GAICC AI Maturity Model (gaicc.org/ai-maturity-model)	Published	Five dimensions rated Initial to Optimizing, profiled against technology maturity
GAICC Implementation Roadmap (gaicc.org/implementation-roadmap)	Published	Seven phases; Phase 7, Adapt and extend, is where frontier autonomous credentials sit

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Annex B: Regulatory horizon 2026 to 2030

The obligations and expected developments below are the horizon the programme teaches candidates to plan against, and the trigger list for updating this curriculum. Scheduled dates are those published in the instrument concerned. Expected dates are inferred from published standards development stages and official statements and may move; instructors say which is which.

When	Obligation or event	Status
11 September 2026	EU Cyber Resilience Act vulnerability and incident reporting obligations apply to products with digital elements, including connected robots	In force
Q4 2026	First Official Journal list of harmonised standards under the Machinery Regulation expected; first CEN-CENELEC JTC 21 AI Act standards targeted for publication	Expected
16 to 20 November 2026	CCW Seventh Review Conference decides on a negotiating mandate for lethal autonomous weapons	Scheduled
9 December 2026	EU Product Liability Directive 2024/2853 applies to products placed on the market; national transposition deadline	Scheduled
1 January 2027	Colorado SB 26-189 automated decision-making law effective	Scheduled
20 January 2027	EU Machinery Regulation 2023/1230 applies; machinery with self-evolving safety components requires notified body assessment	Scheduled
Early 2027	IEC 61508 Edition 3 expected; FAA Part 108 beyond visual line of sight rule expected	Expected
28 February 2027	Deadline for CEN-CENELEC delivery of EU AI Act harmonised standards under standardisation request M/613	Scheduled
2027	ISO/IEC TS 22440 (functional safety and AI systems), ISO 13482 revision, IEC 80601-2-77 and -78 second editions, ISO 3691-4 revision expected; first IEEE humanoid standards at the earliest	Expected
2 August 2027	EU AI Act: general-purpose AI models placed on the market before 2 August 2025 must comply with the general-purpose AI obligations	Scheduled
Late 2027	UK Automated Vehicles Act 2024 full framework expected	Expected
2 December 2027	EU AI Act Annex III high-risk obligations apply (including worker management, biometrics and critical infrastructure safety components)	Scheduled
11 December 2027	EU Cyber Resilience Act applies in full: security by design, conformity assessment and software bill of materials	Scheduled
2027 to 2028	ISO 25785-1 (dynamically stable and humanoid robots), ISO 26058-1 (industrial mobile robots), ISO 26264-1 (humanoid datasets) and China GB humanoid safety standards expected; Korea humanoid safety certification scheme in development	Expected
2 August 2028	EU AI Act Annex I obligations apply to AI embedded in regulated products (medical devices, vehicles, aviation); Machinery Regulation Annex III AI requirements apply through delegated act	Scheduled
2028 to 2030	ISO/PAS 8800 progresses to a full standard; ISO 21448 and ISO/SAE 21434 second editions; ISO 15066-1 biomechanical thresholds; end of China 15th Five-Year Plan period for embodied intelligence	Expected

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