
Certificate in Regulatory Technology for Financial Institutions

Regulatory Frameworks And Compliance

AML (Anti-Money Laundering) – Related terms: KYC, CTF, SAR. A set of legal and regulatory measures designed to detect, prevent, and report suspicious financial activity that may involve the proceeds of crime. Financial institutions must implement risk-based policies, conduct customer due-diligence, monitor transactions, and file suspicious activity reports. Example: A bank uses transaction-monitoring software to flag large, rapid transfers to high-risk jurisdictions and files a SAR with the financial intelligence unit. Practical application includes automated screening against sanctions lists and continuous risk assessment of client portfolios. Challenges involve balancing thorough screening with false-positive rates, keeping up with evolving typologies, and integrating legacy systems with advanced analytics.

APRA (Australian Prudential Regulation Authority) – Related terms: RBA, ASIC, Basel III. The prudential regulator for banks, credit unions, building societies, insurers and superannuation funds in Australia. APRA sets capital adequacy, liquidity, and governance standards, and conducts supervisory reviews. Example: APRA requires a bank to maintain a minimum Common Equity Tier 1 ratio of 10.5% Under its prudential standards. Practical application includes using RegTech tools to generate capital adequacy reports that align with APRA's templates. Challenges include interpreting APRA's guidance across diverse product lines and ensuring data quality for stress-testing.

Basel III – Related terms: BCBS, CET1, Liquidity Coverage Ratio. An international regulatory framework developed by the Basel Committee on Banking Supervision to strengthen bank capital requirements, introduce leverage ratios and improve liquidity risk management. It mandates higher quality capital, a minimum leverage ratio of 3%, and liquidity buffers such as the Liquidity Coverage Ratio (LCR). Example: A European bank calculates its LCR by dividing high-quality liquid assets by net cash outflows over a 30-day stress period. Practical application involves deploying dashboards that aggregate risk-weighted assets, capital buffers, and liquidity metrics in real time. Challenges include aligning national implementation rules, reconciling disparate data sources, and managing the cost of higher capital holdings.

BCBS (Basel Committee on Banking Supervision) – Related terms: Basel III, IOSCO, FSB. The global standard-setting body for banking regulation, comprising central banks and supervisory authorities from major economies. It issues guidelines on capital, risk management, and supervisory practices. Example: The BCBS releases the "Principles for Effective Risk Data Aggregation and Reporting," prompting banks to enhance data governance. Practical application includes adopting a unified data model to meet BCBS reporting standards. Challenges involve translating high-level principles into actionable processes, especially for institutions with fragmented IT landscapes.

CDD (Customer Due Diligence) – Related terms: KYC, EDD, Risk Rating. The process of collecting and verifying information about a client to assess the risk they pose for money laundering or terrorist financing. CDD is required for all customers, with enhanced due diligence (EDD) applied to higher-risk profiles. Example: A fintech platform uses identity-verification APIs to confirm a user's passport and address before

onboarding. Practical application includes risk-rating engines that automatically assign a risk score based on geography, industry, and transaction behavior. Challenges include maintaining up-to-date data, handling false positives, and meeting divergent jurisdictional thresholds.

CECL (Current Expected Credit Loss) – Related terms: IFRS 9, ECL, Provisioning. An accounting standard in the United States that requires financial institutions to estimate credit losses over the life of a loan at the time of origination. CECL replaces the incurred-loss model with a forward-looking approach. Example: A bank projects cash-flow scenarios for a commercial loan portfolio and records a provision based on the weighted average of expected losses. Practical application uses predictive analytics to model macro-economic variables and borrower behavior. Challenges involve data granularity, model validation, and aligning CECL provisions with regulatory capital calculations.

CRR (Capital Requirements Regulation) – Related terms: CRD IV, Basel III, Solvency II. The European Union regulation that complements the Capital Requirements Directive (CRD IV) to implement Basel III standards across EU member states. It specifies capital buffers, leverage ratios, and reporting obligations for banks. Example: A German bank calculates its capital conservation buffer as 2.5% Of risk-weighted assets and reports it in its Pillar 2 disclosures. Practical application includes integrated compliance platforms that generate CRR-compliant reports for supervisory review. Challenges include reconciling national supervisory expectations, managing cross-border exposures, and ensuring consistent data taxonomy.

CTF (Counter-Terrorist Financing) – Related terms: AML, SAR, FATF. Regulatory measures aimed at preventing the financing of terrorist activities. Institutions must screen for suspicious patterns such as small, frequent transfers to high-risk regions. Example: A payment processor flags a series of micro-transactions to a charity in a sanctioned country and escalates the case to a SAR. Practical application involves rule-based engines that incorporate FATF recommendations and local sanctions lists. Challenges include balancing privacy concerns with detection efficacy, and adapting to the rapid evolution of terrorist financing methods.

FATF (Financial Action Task Force) – Related terms: AML, CTF, Mutual Evaluation. An intergovernmental body that sets international standards to combat money laundering and terrorist financing. FATF issues the “40 Recommendations” and conducts peer reviews of member jurisdictions. Example: A jurisdiction receives a FATF “high-risk jurisdiction” designation, prompting domestic banks to intensify AML controls. Practical application includes using RegTech solutions to map internal policies against FATF recommendations. Challenges involve interpreting ambiguous guidance, implementing recommendations across diverse legal systems, and managing reputational risk from FATF findings.

FCA (Financial Conduct Authority) – Related terms: UK PRA, MiFID II, Conduct Risk. The United Kingdom’s market-wide regulator responsible for overseeing conduct of financial services firms and ensuring market integrity. The FCA enforces rules on transparency, consumer protection, and anti-financial crime. Example: The FCA issues a “Consumer Duty” guidance requiring firms to act in the best interest of retail customers, prompting banks to redesign product disclosure. Practical application includes using compliance dashboards to monitor adherence to FCA reporting timelines. Challenges comprise navigating post-Brexit regulatory divergence, handling high-frequency trading surveillance, and aligning conduct risk with business objectives.

FICO (Fair Isaac Corporation) Score – Related terms: Credit Scoring, Risk Modeling, PD. A numerical representation of a consumer’s creditworthiness derived from statistical models that assess probability of default (PD). While not a regulatory metric, it is widely used in credit risk assessment and influences capital calculations under Basel III. Example: A lender uses the FICO score to set loan pricing tiers and to determine provisioning under the CECL model. Practical application involves integrating scoring APIs into loan origination systems. Challenges include ensuring model fairness, dealing with data privacy regulations, and updating models to reflect changing economic conditions.

FINRA (Financial Industry Regulatory Authority) – Related terms: SEC, Broker-Dealer, Net-Capital Rule. The self-regulatory organization overseeing broker-dealers in the United States, enforcing rules on market conduct, supervision, and financial responsibility. FINRA conducts examinations, imposes fines, and maintains the BrokerCheck database. Example: FINRA audits a brokerage firm’s anti-fraud controls and requires remediation of gaps in trade monitoring. Practical application includes deploying surveillance software that flags potential manipulation patterns. Challenges involve keeping pace with emerging trading technologies, managing cross-border compliance, and ensuring consistent enforcement across member firms.

FRTB (Fundamental Review of the Trading Book) – Related terms: Basel III, Market Risk, VaR. A Basel Committee reform that overhauls the market-risk capital framework for banks’ trading books, introducing a standardized approach and an internal models approach with stricter eligibility criteria. Example: A bank calculates the Expected Shortfall (ES) for its trading portfolio under the standardized approach, applying risk-weighting factors for interest-rate and equity exposures. Practical application utilizes high-frequency data feeds and risk-engine platforms to compute ES in near real time. Challenges include data volume, model validation, and meeting the 1-year historical horizon requirement.

GDPR (General Data Protection Regulation) – Related terms: Data Privacy, DPO, Consent. The European Union regulation governing personal data processing, imposing strict consent, transparency, and accountability obligations. Financial institutions must protect customer data, conduct impact assessments, and appoint Data Protection Officers (DPOs). Example: A bank implements a consent-management platform to capture and store customer preferences for marketing communications. Practical application includes anonymizing transaction data before feeding it into analytics pipelines to comply with GDPR. Challenges involve reconciling GDPR with AML data-retention mandates, cross-border data transfers, and navigating the right-to-be-forgotten in legacy systems.

IFRS 9 (International Financial Reporting Standard 9) – Related terms: ECL, CECL, Impairment. The accounting standard that replaced IAS 39, introducing an expected credit loss (ECL) model for financial assets, a forward-looking impairment approach, and new classification criteria for financial instruments. Example: A European bank calculates 12-month ECL for performing loans and lifetime ECL for significantly deteriorated exposures, adjusting provisions accordingly. Practical application relies on scenario-analysis engines that incorporate macro-economic forecasts. Challenges include aligning ECL calculations with regulatory capital models, ensuring data completeness, and managing model governance across multiple jurisdictions.

IOSCO (International Organization of Securities Commissions) – Related terms: MiFID II, SEC, Market

Integrity. The global association of securities regulators that develops and promotes adherence to internationally recognized standards for securities markets. IOSCO issues principles on market transparency, insider trading, and market abuse. Example: IOSCO's "Principles for Financial Benchmarks" guide the governance of benchmark administration, influencing the EU Benchmarks Regulation. Practical application includes adopting compliance frameworks that map internal policies to IOSCO principles. Challenges involve coordinating among diverse regulatory regimes, addressing emerging market-infrastructure risks, and ensuring consistent enforcement.

KYC (Know Your Customer) – Related terms: CDD, AML, Beneficial Owner. The process of verifying the identity of clients and assessing the risk they pose, forming the foundation of AML and CTF programs. KYC involves collecting identification documents, proof of address, and information on the source of funds. Example: A neobanking app uses facial recognition and document OCR to complete KYC in under five minutes. Practical application includes integrating third-party identity-verification services via APIs. Challenges comprise dealing with varying national ID standards, managing onboarding friction, and maintaining ongoing monitoring for existing customers.

Leverage Ratio – Related terms: Basel III, Tier 1 Capital, Capital Adequacy. A non-risk-based measure that compares a bank's Tier 1 capital to its total exposure, intended to constrain excessive leverage. The Basel III framework sets a minimum leverage ratio of 3% for globally systemically important banks. Example: A bank with €200 million Tier 1 capital and €8 billion total exposure calculates a leverage ratio of 2.5%, Prompting a capital-raising plan. Practical application involves exposure-aggregation tools that combine on-balance-sheet and off-balance-sheet items. Challenges include accurate measurement of derivatives and securitisation exposures, and balancing capital efficiency with regulatory compliance.

MiFID II (Markets in Financial Instruments Directive II) – Related terms: ESMA, Transparency, Best Execution. The European Union directive that enhances investor protection, market transparency, and reporting obligations for trading venues and investment firms. It mandates pre- and post-trade transparency, transaction reporting, and algorithmic-trading controls. Example: An asset manager must submit detailed transaction reports to the regulator within 15 minutes of execution. Practical application includes using trade-capture systems that automatically enrich and route data to reporting hubs. Challenges involve handling the high volume of reports, reconciling data inconsistencies, and ensuring compliance across multiple asset classes.

MiCA (Markets in Crypto-Assets Regulation) – Related terms: ESMA, AML, Stablecoins. The EU regulatory framework governing crypto-asset service providers, issuers, and stablecoin operators, aiming to create a harmonized market while protecting investors. MiCA imposes licensing, capital, and disclosure requirements. Example: A crypto exchange obtains a MiCA licence by implementing AML controls, consumer-protection safeguards, and a governance structure. Practical application includes integrating blockchain analytics tools to monitor token flows for illicit activity. Challenges consist of rapid technological evolution, cross-jurisdictional enforcement, and aligning MiCA with existing AML regimes.

Operational Risk – Related terms: Basel III, ORSA, Risk Appetite. The risk of loss resulting from inadequate or failed internal processes, people, systems, or external events. Regulatory frameworks require banks to identify, assess, monitor, and report operational risk exposures. Example: A bank conducts an ORSA (Own

Risk and Solvency Assessment) that quantifies operational loss events using scenario analysis. Practical application involves deploying incident-management platforms that feed data into risk-aggregation engines. Challenges include capturing low-frequency high-impact events, ensuring data integrity, and integrating risk data across business units.

ORSA (Own Risk and Solvency Assessment) – Related terms: Solvency II, ICAAP, Risk Management. A supervisory requirement for insurers (and increasingly for banks) to assess their overall risk profile, capital adequacy, and solvency position on an ongoing basis. ORSA includes stress testing, scenario analysis, and forward-looking assessments. Example: An insurer evaluates the impact of a severe market downturn on its investment portfolio and adjusts its capital plan accordingly. Practical application uses integrated risk-management platforms that consolidate underwriting, market, credit, and operational risk data. Challenges involve aligning ORSA outcomes with regulatory capital calculations, ensuring model governance, and communicating findings to senior management.

PCI DSS (Payment Card Industry Data Security Standard) – Related terms: PCI, Tokenisation, EMV. A set of security standards designed to protect cardholder data during processing, transmission, and storage. Financial institutions that handle payment card information must comply with PCI DSS requirements, including network segmentation, encryption, and regular vulnerability scanning. Example: A merchant adopts tokenisation to replace PANs (Primary Account Numbers) with surrogate tokens, reducing PCI scope. Practical application includes continuous compliance monitoring tools that generate audit reports for PCI assessors. Challenges comprise maintaining compliance across multiple payment channels, addressing legacy POS systems, and managing third-party service-provider compliance.

PCI (Payment Card Industry) – Related terms: PCI DSS, Visa, Mastercard. The consortium of major card brands (Visa, Mastercard, American Express, Discover, JCB) that develops and enforces security standards for payment card transactions. PCI sets the framework for the PCI DSS and provides guidance on tokenisation, EMV, and fraud mitigation. Example: PCI releases a new guidance on contactless payment security, prompting issuers to update firmware. Practical application involves aligning internal security policies with PCI's evolving standards. Challenges include keeping pace with frequent updates, coordinating with multiple card schemes, and ensuring consistent implementation across global operations.

PSD2 (Revised Payment Services Directive) – Related terms: APIs, SCA, Open Banking. The EU directive that governs payment services, promotes competition, and enhances consumer protection. Key provisions include strong customer authentication (SCA) and the requirement for banks to provide APIs to third-party providers (TPPs). Example: A fintech TPP accesses a bank's account information service (AIS) via a regulated API to aggregate user balances. Practical application uses API gateways that enforce SCA, consent management, and audit logging. Challenges involve safeguarding against API-based fraud, meeting strict SCA timelines, and managing cross-border data flows.

SEC (Securities and Exchange Commission) – Related terms: FINRA, Dodd-Frank, Market Abuse. The U.S. Federal agency responsible for enforcing securities laws, regulating exchanges, broker-dealers, and investment advisers. The SEC oversees disclosure, anti-fraud provisions, and market integrity. Example: The SEC issues a rule requiring public companies to disclose cyber-security incidents in their Form 8-K filings. Practical application includes implementing disclosure-management systems that track material events and

generate regulatory filings. Challenges consist of interpreting complex securities regulations, handling whistleblower reports, and coordinating with other regulators on cross-market supervision.

Solvency II – Related terms: ORSA, SCR, MCR. The EU directive that establishes risk-based capital requirements, governance, and reporting standards for insurance and reinsurance undertakings. It introduces the Solvency Capital Requirement (SCR) and Minimum Capital Requirement (MCR). Example: An insurer calculates its SCR using the standard formula, incorporating market, credit, underwriting, and operational risk components. Practical application involves actuarial modeling platforms that produce SCR outputs for regulatory reporting. Challenges include data aggregation across lines of business, model validation under supervisory scrutiny, and integrating Solvency II with internal risk-management processes.

SORA (Supervisory Oversight Risk Assessment) – Related terms: FCA, PRA, Risk Appetite. A supervisory tool used by UK regulators to assess the overall risk profile of a financial institution, focusing on governance, culture, and risk management effectiveness. Example: The FCA conducts a SORA review of a bank's governance framework, identifying gaps in board oversight of climate-related risk. Practical application includes establishing risk-culture dashboards that track key risk indicators (KRIs) aligned with SORA expectations. Challenges involve translating qualitative assessments into measurable metrics and ensuring timely remediation of identified deficiencies.

Stress Testing – Related terms: Scenario Analysis, Basel III, CECL. A forward-looking risk assessment technique that evaluates a firm's resilience under adverse economic or market conditions. Regulators require banks to conduct periodic stress tests and submit results. Example: A bank runs a macro-economic stress scenario featuring a sharp recession, high unemployment, and market volatility, measuring impacts on capital ratios. Practical application uses simulation engines that integrate credit, market, and liquidity risk models. Challenges include selecting realistic scenarios, calibrating model parameters, and communicating results to senior management and regulators.

Surveillance (Market) – Related terms: FINRA, ESMA, Algorithmic Trading. The continuous monitoring of trading activity to detect market manipulation, insider trading, and other abusive practices. Surveillance systems analyze order flow, price movements, and communication data. Example: A surveillance platform detects a "spoofing" pattern where a trader places large orders to create artificial price pressure and then cancels them before execution. Practical application involves machine-learning models that flag anomalies for investigator review. Challenges include handling massive data volumes, reducing false-positive rates, and adapting to evolving trading algorithms.

SWIFT (Society for Worldwide Interbank Financial Telecommunication) – Related terms: ISO 20022, AML, KYC. The global messaging network that facilitates secure standardized financial messages between banks and other financial institutions. SWIFT provides services such as the Customer Security Programme (CSP) to enhance cyber-security. Example: A bank adopts the SWIFT CSP controls, including multi-factor authentication and regular penetration testing. Practical application includes mapping SWIFT MT messages to ISO 20022 formats for regulatory reporting. Challenges involve legacy message formats, cyber-threat mitigation, and meeting increasing compliance expectations for cross-border payments.

Tokenisation – Related terms: PCI DSS, Blockchain, Secure Data. The process of replacing sensitive data

elements with non-sensitive equivalents (tokens) that retain essential information without exposing the original data. In payments, tokenisation reduces PCI DSS scope and mitigates fraud risk. Example: A mobile wallet stores a token instead of the actual card number, allowing transactions without exposing PANs. Practical application uses token-management services that generate, store, and map tokens to original data. Challenges include token lifecycle management, integration with legacy systems, and ensuring token uniqueness across multiple environments.

UML (Unified Modeling Language) – Related terms: RegTech Architecture, Data Flow, System Design. A standardized visual language for modeling software systems, useful for designing compliance-related applications and data pipelines. Example: A RegTech vendor creates UML diagrams to illustrate the flow of customer data from onboarding through transaction monitoring. Practical application includes using UML tools to document system interfaces, facilitating audit trails and change-management processes. Challenges involve keeping diagrams synchronized with evolving codebases and ensuring stakeholder understanding of technical artifacts.

VA (Value-Added Tax) – Related terms: VAT, Tax Reporting, AML. A consumption tax levied on goods and services, with financial institutions often required to report and remit VAT on fees. Example: A bank calculates VAT on its advisory fees and submits quarterly returns to the tax authority. Practical application incorporates tax-engine modules that automatically apply VAT rates based on client location and service type. Challenges include handling cross-border VAT rules, managing exemptions, and integrating tax calculations into existing financial-services platforms.

VASP (Virtual Asset Service Provider) – Related terms: MiCA, AML, FATF. An entity that conducts activities such as exchange, transfer, custody, or issuance of virtual assets. VASPs are subject to AML/CTF obligations, including registration, customer due-diligence, and transaction monitoring. Example: A crypto exchange registers with the national financial intelligence unit and implements KYC checks for all users. Practical application utilizes blockchain analytics tools to screen transfers against sanctions lists. Challenges involve regulatory fragmentation, rapid product innovation, and balancing privacy with compliance.

W-8BEN (Certificate of Foreign Status of Beneficial Owner for United States Tax Withholding and Reporting) – Related terms: FATCA, IRS, Tax Reporting. A form used by non-U.S. Persons to certify foreign status and claim treaty benefits, enabling reduced withholding tax on U.S.-Source income. Example: A foreign investment fund submits a W-8BEN to a U.S. Broker to receive a 15% treaty rate on dividend payments. Practical application includes automated form-capture solutions that validate fields and trigger downstream tax-reporting workflows. Challenges involve ensuring timely renewal, managing data privacy, and reconciling multiple tax jurisdictions.

W-9 (Request for Taxpayer Identification Number and Certification) – Related terms: IRS, FATCA, Reporting. A U.S. Tax form used by individuals and entities to provide their Taxpayer Identification Number (TIN) and certify backup-withholding status. Example: A U.S. Corporation provides a W-9 to a fintech platform to avoid 24% backup withholding on payments. Practical application includes integrating electronic signature capabilities and verification APIs to streamline collection. Challenges include verifying the authenticity of TINs, handling updates, and coordinating with anti-money-laundering checks.

XF-Risk (Cross-Functional Risk) – Related terms: Operational Risk, Conduct Risk, Model Risk. The concept of risk that spans multiple functional areas, requiring coordinated governance across business lines, technology, and compliance. Example: A bank’s new AI-driven loan-approval engine introduces model risk, data-privacy concerns, and potential bias, creating XF-Risk. Practical application involves establishing cross-functional risk committees and shared risk-data platforms. Challenges include breaking down silos, aligning incentives, and ensuring comprehensive risk coverage without duplication.

Y-30 (Year-30 Projection) – Related terms: Stress Testing, Scenario Analysis, Long-Term Planning. A long-horizon projection used by insurers and pension funds to assess solvency and funding status over a 30-year horizon. Example: An insurer projects cash-flow mismatches under a longevity scenario extending to year 30. Practical application includes actuarial models that incorporate demographic, economic, and investment assumptions. Challenges involve uncertainty in long-term assumptions, data availability, and regulatory acceptance of extended projections.

Zero-Trust Architecture – Related terms: Cybersecurity, IAM, MFA. A security model that assumes no implicit trust for any user or device, requiring continuous verification before granting access to resources. Financial institutions adopt zero-trust to protect sensitive data and meet regulatory cyber-security expectations. Example: A bank implements micro-segmentation and multi-factor authentication for all internal applications, regardless of network location. Practical application involves identity-and-access-management (IAM) platforms that enforce policy-based access controls. Challenges include legacy system compatibility, user-experience friction, and scaling verification across global operations.