

## Module Outline

<b>Professional Qualification:</b>	Certified Fintech Professional (Specialist - Regtech Stream) (CPFinT (S-RT)) (QF Level 6)
<b>Programme Title:</b>	Postgraduate Certificate for ECF on Fintech (Specialist – Regtech Stream) - Completion of M5 & M11
<b>Module Title:</b>	Regtech (M11)*
<b>Credit:</b>	30 (21 contact hours, 3 examination hours and about 276 self-study hours)
<b>Teaching/Training Activities:</b>	Training Class
<b>Pre-requisite:</b>	<ul style="list-style-type: none"><li>• Professional Certificate for ECF on Fintech awarded by HKIB; OR</li><li>• Grandfathered for ECF on Fintech (Core Level) by HKIB</li><li>• Grandfathered for at least one stream or track under ECF on Fintech (Professional Level) by HKIB</li></ul>
<b>Remarks:</b>	* Pitched at QF Level 6

### Professional Qualification Objective

The Professional Qualification of Specialist Track is developed to nurture a sustainable talent pool of more experienced and specialised expert level Fintech practitioners for the banking industry. Learners will achieve mastery within a specific Fintech domain on technology principles and applications in the banking industry to advise on Fintech use cases, solution architecture, and implementation management.

### Professional Qualification Intended Outcomes (PQIOs) for Specialist Track (M5, M6, M7, M8, M11)

Upon completion of the Professional Qualification, candidates should be able to:

PQIO 1:	Drive practical Fintech adoption in a range of applicable business contexts.
PQIO 2:	Acquire in-depth knowledge and design rationale of Fintech solutions and

	applications in banks.
PQIO 3:	Evaluate new technologies and vendors in the market and supervise the application of technology concepts of relevant Fintech disciplines in solution design for addressing specific business scenarios and user pain points.
PQIO 4:	Formulate policies for the design, development, and implementation of Fintech solutions.
PQIO 5:	Formulate the implementation approach and guidelines in Fintech projects after reviewing the solution architecture
PQIO 6:	Establish and enforce policies and standards on Fintech software engineering across different coding practices, design patterns, production processes, and system operations.

### Module Objective

The module aims to make learners understand the global RegTech trends and applications in virtual identity and digital authentication management, data and cyber security, financial crime investigation, IT audit and regulatory compliance.

### Module Intended Outcomes (MIOs) & Units of Competencies (UoCs)

Upon completion of the Module 11, candidates should be able to:

MIOs	Intended Outcome / Competence	Unit of Competencies (UoCs)
MIO 1:	Develop robust knowledge of Regtech best practices, Regtech solutions and its effective applications	109357L6 109366L6 109369L5
MIO 2:	Apply business knowledge to identify, manage, and maintain the best practices on risk management and regulatory compliance.	109359L6 109366L6 109369L5
MIO 3:	Develop a deep understanding of the development processes of Regtech solutions (i.e. development, validation, implementation)	109359L6

	and governance).	
MIO 4:	Demonstrate proficiency in Regtech related technology concepts and principles to be able to select the appropriate technology solution provider and apply technology knowledge for business integration, risk management and regulatory compliance.	109305L6 109366L6

### Assessment Activity

Type of Assessment Activity	PQIO/MIO	Weighting (%)
Examination	MIO 1 - 4	100%

### Examination Format and Duration

Time allowed: 3 hours

Format: Essay Type Questions (open-book; choose 4 out of 5 - each 25 marks)

Examination pass mark: 50%

### CPFinT(S-RT) Certification Requirement

- Completion of ECF on Fintech (Professional Level) Training and Pass examination in Module 5 and Module 11; and
- Having at least 3 year of relevant work experience in Fintech projects and / or any of the Professional Level functions in Fintech Solution Development, Fintech Product Design, Fintech Strategy and Management or Regtech; and
- Currently as a Relevant Practitioner

## Syllabus

<b>Chapter 1: Legislative Framework and Regulatory Technology (RegTech) Overview</b>	
1	- RegTech Taxonomy, LoNG PESTEL, BIDT
2	- Why banking is under regulation?
3	- History of RegTech
4	- RegTech 1.0, 2.0, .....
5	- RegTech – Digital Identity, Digital Signature
6	- Managing Trust and Managing Risk
<b>Chapter 2: Data, Financial Intelligence, and Customer Protection</b>	
1	- RegTech – Cyber Crime, Financial Crime
2	- CTF (counter terrorism financing), AML (anti-money laundering) and KYC (know your client)
3	- KYC Exercise / Assignment – Design and Build a RegTech re. KYC services
4	- Data Governance in Open Banking RegTech – ownership, stewardship, custodian
5	- Digital (Computer) Forensics in RegTech
6	- Corporate Strategy, Data Governance and Incident Response
7	- Exercise / Assignment – Financial Intelligence RegTech 1.0
<b>Chapter 3: Disruptive Changes in Banking, Finance and Regulations</b>	
1	- Challenge in RegTech 1.0 – HSBC Case Study
2	- What is a “bank”? What is the purpose of “banking”?
3	- Disruptive Innovation and Technology in Banking and Finance
4	- Scoping Exercise re. Future Money and Crypto-tokens
5	- Disruptive Changes impacting Banking and Regulation
6	- Background Knowledge – Past, Present and Future of Tokenization and Tokenomics
<b>Chapter 4: RegTech Case Analysis I</b>	

1	- CIBC – Internalizing Open Innovation
2	- Deutsche Bank – Pursuing Blockchain Opportunities
3	- Anti-money Laundering: The Banking Industry in Hong Kong
4	- BSI Bank of Switzerland: Victim of Growth or a Perpetrator of a Crime?
<b>Chapter 5: RegTech Case Analysis II</b>	
1	- Fraud at Bank of Baroda: Manage Risk or Manage Crisis
2	- RegTech 1.0 – Common Reporting Standard (CRS) / FATCA (Foreign Account Tax Compliance Act)
3	- Assignment / Exercise – Amarcord Incorporated: Combating Money Laundering Using Data Analytics
4	- Money Laundering at Agnes Insurance – Digital Forensics and Litigations
5	- A Multidisciplinary Digital Forensic Investigation Process Model
6	- RegTech 1.0 Tool Box – AML / CFT
7	- Third Party Vendor Relationships
8	- RegTech 1.0 Tool Box – Regulatory Change Management, Regulatory Risk Management, .....
<b>Chapter 6: Banking Strategy: Crossroad RegTech 1.0 or RegTech 2.0</b>	
1	- Case Study: RegTech 2.0 as an Integral part of WealthTech Application / Robo Trader
2	- What is RegTech 2.0
3	- Is the landscape ready for RegTech 2.0
4	- Open Banking APIs, Open Banking Architecture – RegTech 2.0
5	- -HKMA RegTech Use Case Analysis
<b>Chapter 7: Smart Banking, Smart RegTech</b>	
1	- Faster Payment System (FPS) and RegTech 2.0
2	- Case Analysis – Lending Club
3	- CBDC (Central Bank Digital Currency) / DCEP (Digital Currency Electronic

	Payment)
4	- Smart Contracts
5	- Algorithmic Regulation: Automating Financial Compliance Monitoring and Regulation using AI and Blockchain
6	- Standards-Based Technology Architecture for RegTech
7	- Future Banking and RegTech Strategy

## Recommended Readings

### Essential Readings:

1. UNCITRAL Model Law on e-Commerce.  
[https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic\\_commerce](https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_commerce)
2. UNCITRAL Model Law on Electronic Signatures.  
[https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic\\_signatures](https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_signatures)
3. Electronic Transaction Ordinance and Digital Signature.  
<https://www.elegislation.gov.hk/>
4. Convention on Cybercrime.  
<https://www.coe.int/en/web/conventions/full-list?module=treaty-detail&treaty-num=185>
5. Anti Money Laundering and Counter Terrorism Financing.  
<https://www.unodc.org/unodc/en/money-laundering/overview.html>
6. Evidence Ordinance and Electronic Evidence.  
<https://www.elegislation.gov.hk/hk/cap8>
7. Standard of Proof.  
[http://criminalnotebook.ca/index.php/Standard\\_of\\_Proof](http://criminalnotebook.ca/index.php/Standard_of_Proof)
8. Data Life Cycle Management.  
<https://www.dataworks.ie/5-stages-in-the-data-management-lifecycle-process/>  
<https://www.bloomberg.com/professional/blog/7-phases-of-a-data-life-cycle/>

9. Big Data.  
<https://www.selecthub.com/big-data-analytics/types-of-big-data-analytics/>
  10. Open Source Intelligence for Financial Investigator and AML Practitioners.  
<https://blackdotsolutions.com/blog/open-source-investigation-best-practices/>  
<https://blackdotsolutions.com/blog/what-is-osint/>  
<https://aml-toolbox.medium.com/financial-crimes-osint-tools-banking-5ede7edbc14f>
  11. Four different types of intelligence and data analytics  
<https://iterationinsights.com/article/where-to-start-with-the-4-types-of-analytics/>
  12. Cyber Crimes involving Financial Institutes.  
<https://carnegieendowment.org/specialprojects/protectingfinancialstability/timeline>  
<https://learningcenter.sourceintelligence.com/financial-crime-supply-chains>
  13. Dey, A., Heese, J., & Weber, J., "RegTech at HSBC", Harvard Business Review, October 9, 2019.  
<https://store.hbr.org/product/regtech-at-hsbc/120046?sku=120046-PDF-ENG>
  14. E. Soltes, G. Ros and G. Liu, "An introduction to Money Laundering: The Hunter", Harvard Business Review 2020.  
<https://store.hbr.org/product/an-introduction-to-money-laundering-the-hunter/121011>
  15. "FinTech and the Strategy in the 21st Century, Chapter 6 - Understand RegTech for Digital Regulatory Compliance" p.85 - 102, T. Butler and L. O'Brien, Palgrave Macmillan.  
[https://link.springer.com/content/pdf/10.1007%2F978-3-030-02330-0\\_6.pdf](https://link.springer.com/content/pdf/10.1007%2F978-3-030-02330-0_6.pdf)
  16. RegTech Trends and top 100 RegTech companies  
<https://www.apiax.com/regtech-guide/>
  17. Chandrasekhar, R, "CIBC: Internalizing Open Innovation", Ivey Publishing, Ivey Business School, Western University, 2017.  
<https://store.hbr.org/product/cibc-internalizing-open-innovation/W17728>
  18. L.M. Applegate, R. Beck and C. Muller-Bloch "Deutsche Bank Pursuing BlockChain Opportunities (A) and (B)", Harvard Business School Publishing, Apr 11, 2017.  
<https://store.hbr.org/product/deutsche-bank-pursuing-blockchain-opportunities->
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[a/817100?sku=817100-PDF-ENG](#)

<https://store.hbr.org/product/deutsche-bank-pursuing-blockchain-opportunities-b/817101?sku=817101-PDF-ENG>

19. C. Wong, Y.F. Lam and R. Chung, "Anti Money Laundering The Banking Industry in Hong Kong", The Asia Case Research Centre, May 11, 2020  
<https://hbsp.harvard.edu/product/HK1233-PDF-ENG>
20. Cantale, S., and Buche, I., "BSI Bank of Switzerland: Victim of Growth or Perpetrator of a Crime?", IMD, Lausanne, Switzerland, 12/10/2016.  
<https://store.hbr.org/product/bsi-bank-of-switzerland-victim-of-growth-or-perpetrator-of-a-crime/IMD846>
21. Interview vs Interrogation.  
<https://pressbooks.bccampus.ca/criminalinvestigation/chapter/chapter-9-interviewing-questioning-and-interrogation/>
22. Risk Management.  
<https://www.jisc.ac.uk/guides/risk-management/five-step-model>
23. Dhamija, S., "Fraud at Bank of Baroda: Manage Risk or Manage Crisis", Richard Ivey School of Business, 2016.  
<https://store.hbr.org/product/fraud-at-bank-of-baroda-manage-risk-or-manage-crisis/W16476>
24. "Report: RegTech for CRS/FATCA - A Snapshot", Setting Digital Standard, Dec 2018.  
[https://www.sds.at/wp-content/uploads/2019/03/SDS\\_REPORT\\_RegTech\\_for\\_FATCA%EF%80%A2CRS\\_REPORT\\_EN.pdf](https://www.sds.at/wp-content/uploads/2019/03/SDS_REPORT_RegTech_for_FATCA%EF%80%A2CRS_REPORT_EN.pdf)
25. Khachatryan, D, "Armacord Incorporated: Combatting Money-laundering Using Data Analytics", Babson College, 2014.  
<https://hbsp.harvard.edu/product/BAB260-PDF-ENG?activeTab=overview&itemFindingMethod=>
26. AML/CFT Regtech: Case Studies and Insights, January 2021, Hong Kong Monetary Authority.  
<https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2021/20210121e1a1.pdf>
27. Gopal, A., and Chandrasekhar, "KPMG Forensic: Money Laundering at Agnes Insurance",



Richard Ivey School of Business 2004.

<https://store.hbr.org/product/kpmg-forensic-money-laundering-at-agnes-insurance/904E04>

28. Lutui, R., "A Multidisciplinary Digital Forensic Investigation Process Model", Kelly School of Business, Indiana University 2016.

<https://store.hbr.org/product/a-multidisciplinary-digital-forensic-investigation-process-model/BH766>

29. The Wall Street Code, VPRO documentary 2013.

<https://www.youtube.com/watch?v=kFQJNeQDDHA>

30. How algorithms shape our world - Kevin Slavin

<https://www.youtube.com/watch?v=ENWVRcMGDoU>

31. FinTech disruptor

<https://www.cbinsights.com/blog/disrupting-european-banking-fintech-startups/>

32. Egner, T., "Open APIs and Open Banking: Assessing the Impact on the European Payments Industry and Seizing the Opportunities", The CAPCO Institute Journal of Financial Transformation, No. 45, April 2017.

[https://www.capco.com/-/media/CapcoMedia/Capco-Institute/Journal-45/JOURNAL45\\_1\\_Egner.ashx](https://www.capco.com/-/media/CapcoMedia/Capco-Institute/Journal-45/JOURNAL45_1_Egner.ashx)

33. HPS, "The Transformation of Banking and Payments Through Open APIs HPS White paper", June 2019.

[https://www.hps-worldwide.com/sites/default/files/blog/The%20Transformation%20of%20Banking%20and%20Payments%20Through%20Open%20APIs\\_HPS\\_White%20paper\\_0.pdf](https://www.hps-worldwide.com/sites/default/files/blog/The%20Transformation%20of%20Banking%20and%20Payments%20Through%20Open%20APIs_HPS_White%20paper_0.pdf)

34. FPS

<http://www.fasterpayments.org.uk/about-us/how-faster-payments-works>

<https://www.hkma.gov.hk/media/eng/publication-and-research/quarterly-bulletin/qb201809/fa2.pdf>

35. RegTech vs SupTech: What You Need to Know.

<https://www.ncontracts.com/nsight-blog/what-you-need-to-know-regtech-vs-suptech>

36. Innovative Technology in Financial Supervision (SupTech) - the experience of early users, Bank for International Settlement.

<https://www.bis.org/fsi/publ/insights9.pdf>

37. CBDC / DCEP

<https://cbdctracker.org/>

<https://www.investopedia.com/terms/c/central-bank-digital-currency-cbdc.asp>

<https://boxmining.com/dcep/>

38. Banking-as-a-Service (BaaS)

<https://www.businessinsider.com/westpac-10x-future-technologies-partner-for-banking-as-a-service-2019-11>

<https://medium.com/fintechtris/fintech-focus-what-is-banking-as-a-service-baas-2627e9a73377>

<https://www.capgemini.com/2018/04/the-bank-of-the-future-an-ecosystem-of-services/>

39. HKMA Use Cases in RegTech

<https://www.hkma.gov.hk/eng/key-functions/banking/regtech-knowledge-hub/regtech-developments/>

### Supplementary Readings

1. UNCITRAL Model Law on Electronic Commerce with Guide to Enactment 1996 (full paper).

[https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/19-04970\\_ebook.pdf](https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/19-04970_ebook.pdf)

2. UNCITRAL Model Law on Digital Signature (full paper).

<https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/ml-elecsig-e.pdf>

3. Model Legislation on Money Laundering and Financing of Terrorism

<https://www.imolin.org/pdf/imolin/ModelLaw-February2007.pdf>

4. Model Law on Electronic Evidence.

[https://thecommonwealth.org/sites/default/files/key\\_reform\\_pdfs/P15370\\_7\\_ROL\\_Model\\_Bill\\_Electronic\\_Evidence\\_0.pdf](https://thecommonwealth.org/sites/default/files/key_reform_pdfs/P15370_7_ROL_Model_Bill_Electronic_Evidence_0.pdf)

5. HK Ordinance CAP 8, 161, 200, 405, 455, 486, 528, 575. 593.

<https://www.elegislation.gov.hk>

6. ISO 27001 definition: What is ISO 27001?  
<https://www.itgovernance.co.uk/iso27001>
7. CMMC self assessment tool.  
<https://www.celerium.com/request-cmmc-assessment-tool?hsCtaTracking=095a8e06-76ae-44fa-899a-04c77974b791%7C2d0eb223-ca98-4228-9190-f33d44d5d54e>
8. NIST framework.  
<https://www.nist.gov/cyberframework>
9. Vizor software.  
<https://www.vizorsoftware.com/regulatory-reporting-software-for-financial-institutions>
10. Regnology.  
<https://www.regnology.net/en/>
11. The investigator-centered approach to financial crime: Doing what matters  
<https://www.mckinsey.com/business-functions/risk-and-resilience/our-insights/the-investigator-centered-approach-to-financial-crime-doing-what-matters>
12. The 5 largest money laundering scandals of all time... so far.  
<https://medium.com/kyc-io-scalable-kyc-management-solutions/the-5-largest-money-laundering-scandals-of-all-time-so-far-d30ff4abee10>
13. AML cases.  
<https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2021/20210121e1a1.pdf>
14. WealthTech and RegTech.  
<https://www.thewealthmosaic.com/vendors/apiax/twm-articles/wealthtech-views-report-the-view-from-apiax/>
15. Javers, E, "Thomson Reuters Gives Elite Traders Early Advantage", 12 June, 2013.  
<https://www.cnbc.com/2013/06/12/thomson-reuters-gives-elite-traders-early-advantage.html>
16. China's National Digital Currency DCEP / CBDC Overview.  
<https://boxmining.com/dcep/>
17. Accenture, "Faster Payments New Access Model. Creating a Competitive Market in Access Services for Real Time, 24/7 Payments", 2015.

<http://www.fasterpayments.org.uk/sites/default/files/Faster%20Payments%20Access%20Programme%20Economics%20Report%20-%20Online%20Version.pdf>

18. HKMA CFI 2.0

<https://www.hkma.gov.hk/eng/news-and-media/press-releases/2020/11/20201103-4/>

19. NIST

<https://csrc.nist.gov/Projects/risk-management#:~:text=The%20NIST%20Risk%20Management%20Framework,to%20support%20implementation%20of%20risk>

### Further Readings

1. Understanding digital signatures.  
<https://www.docuSign.ca/how-it-works/electronic-signature/digital-signature/digital-signature-faq>
2. European Commission, "Introduction to the Connecting Europe Facility eID Building Block.", March 2016.  
[http://www.esens.eu/sites/default/files/building\\_block\\_dsi\\_introdocument\\_eid-v1.04\\_4.pdf](http://www.esens.eu/sites/default/files/building_block_dsi_introdocument_eid-v1.04_4.pdf)
3. Cloud-based IT security policy template generator allows you generate your security policy template, within minutes, guaranteed.  
[https://www.instantsecuritypolicy.com/it-security-policies.html?keyword=it%20security%20policies&matchtype=e&network=g&adposition=&device=c&gclid=Cj0KCQjw\\_fiLBhDOARIsAF4khR21\\_6FWPXr3HwPkHukyA02EjyG1Jok2VyoYSc-PjwH5yzULeU1vKYEaAkPfeALw\\_wcB](https://www.instantsecuritypolicy.com/it-security-policies.html?keyword=it%20security%20policies&matchtype=e&network=g&adposition=&device=c&gclid=Cj0KCQjw_fiLBhDOARIsAF4khR21_6FWPXr3HwPkHukyA02EjyG1Jok2VyoYSc-PjwH5yzULeU1vKYEaAkPfeALw_wcB)
4. C. Hadnagy, "Social Engineering, Second Edition: The Science of Human Hacking", 2018 John Wiley & Sons, Inc.  
(Book, ISBN: 978-1-119-43338-5)
5. K. Mitnick, "The Art of Deception: Controlling the Human Element of Security", 2003 Kevin D. Mitnick (P)2009 Tantor Audio.  
(Book, ISBN: 978-0764542800)
6. D. Khachatryan, "Armacord Incorporated" Combatting Money Laundering Using Data Analytics", Harvard Business Review 2012.

<https://hbsp.harvard.edu/product/BAB260-PDF-ENG>

7. Cantale, S. and Buche, I., "BSI Bank of Switzerland Victim of Growth or Perpetrator of a Crime ?", IMD 2016.  
<https://store.hbr.org/product/bsi-bank-of-switzerland-victim-of-growth-or-perpetrator-of-a-crime/IMD846>
8. Cohen, L, Malloy, C., & Foreman, M, "Domeyard: Starting a High Frequency Trading (HFT) Hedge Fund", Harvard Business Review, 2015.  
<https://www.hbs.edu/faculty/Pages/item.aspx?num=48844>
9. Evan, B, "Disrupting Wall Street: High Frequency Trading", Ivey Publishing, Ivy Business School, Western University, 2014.  
<https://store.hbr.org/product/disrupting-wall-street-high-frequency-trading/W14540>
10. Casey, E., "Handbook of Digital Forensics and Investigation", Academic Press Nov 2009.  
[https://books.google.com.hk/books?id=xNjsDprqtUYC&printsec=copyright&redir\\_esc=y#v=onepage&q&f=false](https://books.google.com.hk/books?id=xNjsDprqtUYC&printsec=copyright&redir_esc=y#v=onepage&q&f=false)
11. Hayek, F.A., "Denationalization of Money: The Argument Refined. An Analysis of the Theory and Practice of Concurrent Curriencies", Third Edition, The Institute of Economic Affairs, 1990.  
<https://nakamotoinstitute.org/static/docs/denationalisation.pdf>