Toronto AI School

Master Program in AI Governance, Risk & Compliance

Week 1 – Foundations of AI Governance

Session	Topics Covered
Day 1 – Introduction to AI Governance	- Understanding AI governance frameworks - Why AI governance matters in enterprises - AI lifecycle governance - Stakeholders in AI governance - Ethics vs compliance vs regulation - Case Study: Microsoft Responsible AI framework - Case Study: Google AI Principles implementation
Day 2 – AI Risk Landscape	- Types of AI risks - Algorithmic bias and discrimination - Model transparency challenges - AI misuse and abuse - Operational risks of AI systems - Case Study: Amazon AI recruiting bias incident - Case Study: COMPAS algorithm controversy
Day 3 – Global AI Regulation Overview	- Overview of AI regulations globally - EU AI Act structure - US AI governance initiatives - Canadian AI regulatory environment - Industry self■regulation models - Case Study: EU AI Act compliance challenges - Case Study: OpenAI safety governance discussions

Week 2 – Responsible AI Design

Session	Topics Covered
Day 1 – Responsible AI Principles	- Fairness in AI systems - Transparency and explainability - Accountability frameworks - Human■centered AI design - Trustworthy AI development - Case Study: IBM AI ethics board - Case Study: Meta responsible AI practices
Day 2 – Bias Detection and Mitigation	- Sources of bias in datasets - Bias detection methods - Fairness metrics - Debiasing techniques - AI fairness auditing tools - Case Study: healthcare algorithm bias analysis - Case Study: hiring algorithm fairness evaluation

Day 3 – Explainable AI	- Importance of explainability - Explainable AI techniques - Model interpretability methods - Transparency for regulators - Communication of AI decisions - Case Study: credit scoring explainability - Case Study: financial loan approval transparency

Week 3 – AI Risk Management

Session	Topics Covered
Day 1 – AI Risk Frameworks	- NIST AI Risk Management Framework - ISO AI governance standards - Enterprise AI risk registers - Risk scoring models - Risk monitoring dashboards - Case Study: NIST AI RMF adoption - Case Study: enterprise AI risk frameworks in banks
Day 2 – Model Risk Management	- Model lifecycle risk - Model validation processes - Model monitoring techniques - Documentation for compliance - Risk mitigation strategies - Case Study: JPMorgan model risk management - Case Study: Goldman Sachs model governance
Day 3 – Operational AI Risk	- Operational failures in AI systems - AI incident management - AI rollback and containment strategies - Operational monitoring systems - AI governance escalation procedures - Case Study: Tesla Autopilot investigation - Case Study: algorithmic trading incident analysis

Week 4 – AI Compliance

Session	Topics Covered
Day 1 – Regulatory Compliance	- Regulatory reporting for AI - Compliance documentation - Data protection laws - AI regulatory impact assessments - Compliance management platforms - Case Study: GDPR compliance in AI systems - Case Study: financial AI regulatory reporting
Day 2 – Data Governance	- Data governance frameworks - Data lineage tracking - Data privacy and protection - Secure data pipelines - Data auditability - Case Study: healthcare data governance - Case Study: banking data governance models

Day 3 – AI Auditing	- Internal AI auditing processes - External AI audit standards - Algorithm audit frameworks - Compliance evidence generation - Audit documentation systems - Case Study: AI audit practices in Big Tech - Case Study: fintech algorithm audits

Week 5 – Ethical AI Leadership

Session	Topics Covered
Day 1 – AI Ethics Boards	- Structure of AI ethics committees - Governance responsibilities - Decision making frameworks - Policy enforcement - Ethics review workflows - Case Study: Google AI ethics board - Case Study: Microsoft governance committees
Day 2 – AI Policy Development	- Enterprise AI policies - Responsible AI policy templates - Policy governance lifecycle - Employee AI usage policies - Policy enforcement strategies - Case Study: OpenAI safety policies - Case Study: corporate AI usage guidelines
Day 3 – Public Trust and Transparency	- Building public trust in AI - Transparency reporting - AI disclosure strategies - Ethical communication - Stakeholder engagement - Case Study: public AI transparency reports - Case Study: government AI accountability programs

Week 6 – AI Governance Architecture

Session	Topics Covered
Day 1 – Governance Operating Models	- Enterprise AI governance structures - AI governance operating models - AI steering committees - Governance workflow design - Policy integration into development - Case Study: enterprise governance architecture - Case Study: global technology governance models
Day 2 – Governance Technology	- AI governance software tools - Model monitoring platforms - Compliance automation tools - AI documentation platforms - Risk monitoring dashboards - Case Study: model monitoring tools - Case Study: enterprise compliance automation

Day 3 – Governance Lifecycle	- AI governance lifecycle management - Model lifecycle governance - AI approval pipelines - Governance checkpoints - Continuous monitoring processes - Case Study: enterprise AI approval frameworks - Case Study: regulated industry governance models

Week 7 – Sector■Specific AI Governance

Session	Topics Covered
Day 1 – Financial Sector Governance	- Banking AI regulation - Model risk governance - Financial compliance systems - Fraud detection governance - Risk reporting - Case Study: TD Bank model risk governance - Case Study: Basel model governance requirements
Day 2 – Healthcare AI Governance	- Medical AI regulation - Clinical decision support compliance - Healthcare AI ethics - Patient data protection - Medical AI audit frameworks - Case Study: FDA AI medical device regulations - Case Study: hospital AI governance programs
Day 3 – Autonomous Systems Governance	- Autonomous vehicle AI governance - Safety validation systems - AI liability issues - Regulatory oversight - Incident investigation frameworks - Case Study: Tesla AI safety governance - Case Study: Waymo regulatory compliance

Week 8 – AI Security & Misuse Prevention

Session	Topics Covered
Day 1 – AI Security Risks	- Prompt injection risks - Model manipulation attacks - AI system exploitation - Security risk monitoring - AI misuse prevention - Case Study: prompt injection vulnerabilities - Case Study: AI generated misinformation
Day 2 – AI Safety Engineering	- AI red teaming - Model stress testing - Safety validation frameworks - Security governance integration - Incident simulation exercises - Case Study: OpenAI safety testing - Case Study: AI model stress testing

Day 3 – Crisis Management	- AI incident response plans - Regulatory communication - Crisis containment - Legal response planning - Public communication strategies - Case Study: AI product recall events - Case Study: major AI failure investigations

Week 9 – AI Governance Strategy

Session	Topics Covered
Day 1 – Enterprise AI Strategy	- AI governance strategy alignment - Board level governance - Strategic risk management - Governance roadmap design - Governance maturity models - Case Study: Fortune 500 AI governance strategy - Case Study: enterprise transformation programs
Day 2 – AI Governance Consulting	- Governance consulting frameworks - Enterprise assessments - Risk assessment tools - Governance implementation planning - Consulting methodologies - Case Study: consulting firm governance programs - Case Study: enterprise AI governance transformations
Day 3 – Future of AI Regulation	- Emerging AI policy trends - Global regulatory cooperation - AI international standards - Future compliance requirements - Preparing organizations for regulation - Case Study: global AI governance initiatives - Case Study: cross■border AI regulatory challenges

Week 10 – Capstone Projects

Session	Topics Covered
Day 1 – Governance Framework Design	- Design enterprise AI governance model - Build governance policy framework - Develop risk monitoring dashboard - Create governance workflow - Develop governance documentation - Project: enterprise governance framework - Project: responsible AI policy architecture
Day 2 – AI Risk Audit	- Conduct AI risk audit - Analyze model bias and fairness - Develop compliance documentation - Create audit report - Build governance recommendations - Project: AI compliance audit - Project: regulatory compliance framework

Day 3 – Executive Governance Presentation	- Present governance strategy - Develop board■level reporting - Create risk mitigation plan - Build governance roadmap - Executive stakeholder communication - Project: enterprise governance strategy - Project: AI policy implementation plan