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Technology & Digitization Transition Plan

2024 - 2029

Acknowledgements

The development of Fleming's 2024-2029 Technology & Digitization Plan was spearheaded by the Executive Vice President, Information Technology & Registrarial Services and Vice President, Information Technology & Digital Strategy.

The IT Governance Committees and ITS Department engaged a diverse set of key internal and external collaborators from the Fleming community. We would like to thank these individuals for sharing their time, insights & contributions to inform the development of this plan.

We acknowledge that we are serving our communities and the province on the traditional lands of the Anishinaabe Mississauga Peoples.

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Technology & Digitization Plan

Mission

Provide **efficient and effective technology solutions** and services that align with & enable the **College's strategy**; to provide a **compelling student experience** for all learners and to achieve **operational effectiveness** to ensure a sustainable future.

Vision

To become a **nimble** & **dynamic** college that provides **accessible**, **collaborative** & **innovative** technology solutions and services to our user community.

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Context

This plan lays the groundwork for Fleming College's IT transformation, transitioning from a technical debt-laden state to a digital-first leader in the post-secondary market. It aligns with the new Fleming Strategic Plan (2024-2028) as it will inform and be informed by it.

Following COVID-related impacts and adjustments to previous plans, Fleming is ready for transformational change in its technology **infrastructure**, **applications**, and **service delivery**. The pace of this change will depend on three key enabling or potentially limiting factors: **funding**, **people** and **comfort with change**.

This multi-year roadmap outlines major initiatives to ensure **all parties are aware of the proposed transformations**, including the key enablers and limiting factors, so they can be appropriately managed along with the expected outcomes. This approach aims to establish a governance, architecture and service model that empowers technology users and strengthens Fleming's competitive position.

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Key Enablers & Potentially Limiting Factors

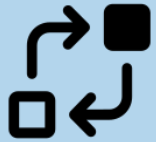
Fleming is ready for transformational change in its technology infrastructure, applications, and service delivery. The pace of change will be facilitated by the following key enablers:

Funding

Multi-year funding commitments: Funding beyond annual budgets is necessary to deliver change initiatives successfully.

People

IT/Tech resource availability: Having skilled and knowledgeable IT professionals is crucial.



Comfort with Change

To lead, we need to be curious and **comfortable with constant change** as we take informed and calculated risks to move forward.

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Core Values – How We Measure Ourselves

As we embark upon this multi-year plan for transformation change within our technology and digital spaces, the following core values will be used to measure our approach to change and overall performance.

Partnering, Collaboration & Communication:

- Partner with our communities.
- Commitment to teamwork.
- Create an inclusive environment that builds on relationships and shares knowledge.
- Cultivate open lines of communication.

Service Excellence & Improvement:

- Provide exceptional customer service and regularly measure satisfaction.
- Accept responsibility for our commitments and be accountable for our results.
- Be highly agile and embrace change.
- Continually measure, improve, and optimize our effectiveness.
- Encourage creativity.

Safe & Secure:

- Effectively safeguard data.
- Ensure systems and processes support privacy, security, and confidentiality.
- Manage risks and data integrity.

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Guiding Principles

How We Govern Work and Decisions
These principles guide our work and decision-making:

Align with College Strategy	Focus IT investments and resource utilization to support the College's strategic goals.
Continuous Learning	Continuously invest in our community through training and development opportunities to embrace change and emerging needs.
Design & Implement Purposeful Solutions	Prioritize cost-effective, scalable solutions that leverage industry standards and best practices, favouring cloud-based solutions and integrations.
Create an Innovative & Data-Driven Culture	Cultivate data awareness and innovation through evidence-based decision-making, promoting data literacy skills and support for evaluating new and emerging technologies.
Customer Service Excellence	Provide technology guidance, support, and consulting, partnering with the College communities to deliver value and build trust through transparency and accountability.
Prioritize Information Security	Foster a culture of information security awareness, empowering our community to protect themselves and the College from cyber risks and threats.

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Goals and Strategies

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Community Engagement & Expectations

Students

Employees

Administrative Systems

Provide a compelling student experience by embracing technology and innovative digital tools. To achieve this, we will:

- Focus on the student experience in all digital services.
- Offer 7x24 access and support.
- Investment in classroom technology for flexible and immersive hybrid learning.
- Provide all students with remote digital access to academic tools and technology resources.

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Community Engagement & Expectations

Students

Employees

Administrative Systems

Employees: We invest in our people to provide an exceptional student experience and foster a positive, equitable, and supportive workplace culture. We will:

- Invest in modern technology and digital tools to achieve operational effectiveness.
- Provide professional development opportunities for staff to keep their technical skills current and relevant.
- Provide annual cybersecurity and privacy training, and access to digital literacy training resources.
- Provide faculty with applied research opportunities and capacity.

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Community Engagement & Expectations

Students

Employees

Administrative Systems

Administrative systems are the backbone of effective and sustainable operation and service delivery. They provide key touchpoints between students and employees across a broad range of functional areas including recruitment, registration, retention, finance, student services and facilities among others. This multi-year roadmap will see the College transition many of the administrative functions to new cloud-based solutions with modern data and UI capabilities fit for current and future emerging requirements.

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Embrace Technology & Digital Tools

We will:

- Invest in technology for everyone to benefit from new learning and career opportunities.
- **Digitize business processes** for efficiency and improved data management.
- Implement new **Enterprise Service Management (ESM)** & **IT Service Management (ITSM)** portals for better service access and streamlined support.

IT Governance

Perform effective IT governance to ensure efficient IT resource utilization and achieve our technology goals.

We will:

- Establish a clear **IT governance structure** with defined roles and responsibilities for everyone involved.
- Develop and communicate IT policies, procedures, standards, and values to guide decision-making, planning, execution, and monitoring of IT processes.
- Implement **IT performance measurement** and reporting systems to track and evaluate IT goals and outcomes.
- Foster a culture of IT governance awareness, engagement, and collaboration across the College.
- Implement **data governance principles** and practices to foster a data-driven culture and support of the College's Research Data Management Strategy.

Cloud First

Adopt a “cloud-first” strategy that prioritizes the use of cloud-based infrastructure and applications over on-premises solutions whenever feasible and there is a sound business case to do so. In doing this

We will:

- Achieve greater agility, scalability, security, and cost-efficiency in solution delivery.
- Ensure that cloud solutions are secure, trustworthy, and fit for purpose.
- Reduce technical debt and improve innovation capabilities.
- Develop an application programming interface (API) strategy for cloud-based systems.

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Technology Modernization

Recognize the importance of technology modernization for maintaining efficient, reliable, and secure IT solutions and infrastructure.

We will:

- Invest in updating and modernizing end-point devices used by students and staff.
- Refresh hardware and software in the College's data center and network infrastructure.
- Favour cloud-ready and modern commodity-based components and services as we rearchitect our technology stack to fit a more modern IT landscape.
- Embrace new and emerging technologies.

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Hy-Flex Learning & Collaboration

Hy-Flex learning creates a flexible environment where students can participate in-person or remotely, simultaneously. It's not simply streaming a lecture; it's about fostering a connected and engaging learning experience for both audiences.

Collaboration isn't just a buzzword; it's a core competency in the modern academic institution and workplace. By fostering an environment where the college community can share ideas, problem-solve in teams, and work seamlessly across locations, collaboration drives innovation, efficiency, and overall College success.

We will:

- Invest in **Hy-flex learning technologies** and classroom equipment.
- Invest in **collaboration technologies,** meeting room equipment and related training.
- Providing all students with remote access to a full desktop experience using **virtual desktop infrastructure (VDI) technology**.

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Business Continuity

Reliable IT infrastructure is critical to our daily operations and academic success. We are committed to ensuring the continuity of our IT systems and services in the event of any disruption or disaster.

We will:

- **Investing in technology currency and cloud solutions:** Prioritizing solutions that enhance our ability to recover quickly from disruptions.
- **Regular Business Impact Analysis (BIA):** Identify critical IT assets, dependencies, and recovery priorities for efficient restoration.
- **Comprehensive IT Business Continuity Plan (IT BCP):** Outline roles, responsibilities, and procedures for responding to and recovering from IT incidents.
- **Backup and recovery solutions:** Utilize cloud-based and off-site storage to ensure data and application recovery in case of IT disruptions.
- **Continuous risk monitoring and plan updates:** Actively monitor IT risks and threats, updating our BCP and Incident Response (IR) plans accordingly.

Innovation

Embrace a culture of innovation and experimentation.

We will:

- Actively **explore and evaluate new and emerging digital technologies** to consider the potential benefits of new technologies for our college.
- Building upon the work of the Artificial Intelligence Working Group, we will explore the adoption of ethical **Artificial Intelligence** in non-academic areas.

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Digital Inclusion

Fleming College is committed to addressing digital inclusion[1] barriers to help provide equitable access and use of technology for all members of our college community.

We will:

- **Affordable, reliable Internet:** Acknowledge the importance of accessible and affordable Internet connectivity for full participation in the digital world.
- **Device access:** Strive to provide students and staff with device access and devices that meet their individual needs and learning styles.
- **Digital literacy training:** Empower our community by offering training and resources to develop essential digital skills and confidence.
- **Technical support:** Provide quality technical support to address technological challenges faced by our community.

[1] Digital inclusion as defined by National Digital Inclusion Alliance. https://www.digitalinclusion.org/definitions/

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Digital Inclusion (Continued...)

- **Accessible technology solutions:** Prioritize solutions that are user-friendly, inclusive, and compliant with digital accessibility standards.
- **Identifying and removing barriers:** Actively seek feedback from our diverse community to identify and address any barriers within our college environment.
- **Promoting inclusivity:** Foster a culture of inclusivity using respectful and accessible language in all our technology solutions and communication. (See Appendix A – Inclusive Technology Language)
- **Providing alternative options:** Offer alternative methods of participation and support for those who may face challenges with traditional technology access methods (e.g., providing alternative MFA devices/methods).
- **Continuous improvement:** Continuously strive to improve our digital inclusion efforts through ongoing dialogue with our community and by staying informed of evolving best practices.

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Roadmap to Building a Leading Technology Future

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Keys to Success

We recognize the importance of maintaining 'business as usual' throughout this transformation. Therefore, we will continue to support current services while implementing strategic initiatives focused on long-term growth and innovation.

Key to our success is a multi-year planning horizon that encompasses:

Effective resource allocation: Strategically allocate resources to maximize their impact on achieving our goals.

Collaborative user engagement: Actively engage user groups throughout the entire process, from initial requirements gathering to implementation and beyond. This ensures solutions are developed and implemented with user needs in mind.

Optimized project sequencing: We will prioritize and sequence projects strategically to minimize rework and maximize efficiency.

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Priority Technology Areas of Impact

The roadmap highlights some of the key initiatives we will undertake across several crucial areas. While pursuing these initiatives, we will remain adaptable and open to exploring, evaluating, and adopting emerging technologies that further strengthen our digital landscape.

Cloud First Strategy	Prioritize cloud-based solutions for increased agility, scalability, security, and cost-effectiveness.
Business Continuity	Develop and implement robust plans to ensure IT services continuity in the event of disruptions.
Technology Modernization	Invest in modernizing our infrastructure, hardware, and software to ensure reliability and efficiency.
Digital Inclusion	Provide equitable access and fostering inclusivity for all members of our community by addressing digital divide barriers.
Hyflex Learning & Collaboration	Invest in modernizing our technology, equipment and user training to reshape our approach to online work and learning.
Innovation & Exploration	Encourage a culture of experimentation and adoption of relevant emerging technologies.

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Technology Modernization – ERP & PeopleSoft

Goal: Modernize our ERP software and migrate to a cloud-based solution.

Priority Area	Critical Steps	Year 1	Year 2	Years 3-5
Administrative Systems - ERP & PeopleSoft Modernization - **Finance** - **HR/Payroll** - **Student/Registrar**	• Strategy & Requirements • IBM/PeopleSoft Campus Solution Project • New ERP Solution(s) / Vendor Selection			
	• Design & Build			
	• Go Live(s)			

Initiation of Step Ongoing

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Technology Modernization – Hardware Refresh

Goal: Modernize our end-user hardware to provide an optimal user experience.

Priority Area	Critical Steps	Year 1	Year 2	Year 3	Years 4-5
Hardware Refresh – Desktop & Laptops	• Upgrade 33% of Fleet				
	• Upgrade 33% of Fleet				
	• Upgrade 33% of Fleet				
	• Upgrade 25% of Fleet				

Initiation of Step Ongoing

Technology Modernization – Data Network

Goal: Modernizing our network infrastructure to improve performance, redundancy & availability.

Priority Area	Critical Steps	Year 1	Year 2	Years 3-5
Data Network – Wi-Fi & Broadband	• WAN/SD-WAN Re-design • 10 Gbps WAN Upgrade – Brealey to Frost • Wi-Fi Upgrade to Meraki hardware • Campus & Residence Switch Upgrade			
	• Haliburton ISP			
	• Frost ISP • Diversify Brealey last mile fiber			
	• Replace Edge & Core Firewalls • Remote site hardware VPN • Implement Zero Trust Network Architecture (ZTNA)			

Initiation of Step Ongoing

Technology Modernization – Student Recruitment & Engagement

Goal: Modernizing our software used to optimize the student journey and experience.

Priority Area	Critical Steps	Year 1	Year 2	Years 3-5
Student Engagement & Recruiting	• Salesforce Marketing Cloud – Launch & Expansion			
	• CRM Business Case			
	• CRM Launch (Inform PeopleSoft Replacement)			
	• Student Engagement Mobile App			

Initiation of Step Ongoing

Embrace Digital Tools – Service Delivery

Goal: Modernizing our service delivery software enabling staff to efficiently provide a compelling student experience.

Priority Area	Critical Steps	Year 1	Year 2	Years 3-5
Service Delivery – Model & Tool	• Service Hub	Strategy, design & proof-of-concept	Assess, adjust & scale	Full deployment
	• Team Dynamix ITSM/ESM • Deploy AI Chatbot	Phase 1 – ITS & Projects (PMO)	Phase 2 – RO, Facilities, Student Services, others	Optimize and refine
	• Implement IT Remote Support Tool			
	• 7x24 IT Service Desk Availability			

Initiation of Step Ongoing

Technology Modernization & Continuity - Cloud Migrations

Goal: Modernizing our infrastructure and software to by moving workloads to the cloud.

Priority Area	Critical Steps	Year 1	Year 2	Years 3-5
Cloud Migration	• StarRez			
	• AzureAD Managed Domain • Select Survey			
	• Telephone System – including SIP migration & contact centre functionality			
	• Virtual Desktop Infrastructure (VDI) – Available to all students and staff.	Build & deploy	Assess & scale	**Cloud scale**

Initiation of Step Ongoing

Student Experience, Learning and Collaboration

Goal: Invest in Hy-Flex classrooms & collaborative technologies to provide flexible academic delivery options.

Priority Area	Critical Steps	Year 1	Year 2	Years 3-5
Hybrid/Hyflex Learning & Collaboration **Learning Management System (LMS)**	• Hy-Flex classroom & meeting room equipment installations	Initial	Scale hardware	Scale hardware
	• Individualize D2L Course Shells			
	• Implement D2L Health Check Recommendations			
	• LMS Roadmap & Options Review			

Initiation of Step Ongoing

IT Business Continuity

Goal: Address specific risks to the availability of IT resources.

Priority Area	Critical Steps	Year 1	Year 2	Years 3-5
IT Business Continuity	• Brealey Data Centre Chiller replacement	Engineering & hardware	Installation	
	• Server hardware refresh • Replace backup storage	Server hardware refresh		Replace Backup Storage
	• Alternate Frost Data Centre		Initial Build	Scale & fail-over testing
	• Cloud Infrastructure-as-a-Service (IaaS)		Initial Proof-of-Concept	Scale

Initiation of Step Ongoing

Digital Transformation

Fundamental change of how an organization operates and delivers value to customers. It involves modernizing processes, products & services to enhance efficiency, innovation and customer experience.

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How Work is Allocated

ITS Areas of Enablement	IT Service Desk	Data Infrastructure Group	Enterprise Application Services	IT Security Team	Digital Transformation "Team"
Service Delivery Implementation of new solutions and services.	✔	✔	✔	✔	✔
Service Operations Support of existing solutions and services.	✔	✔	✔	✔	
Digital Transformation Lead strategic & innovative technology change projects.					✔
Community and User Engagement Tactics and governance for community and user group engagement.	✔	✔	✔	✔	✔

Digital Transformation - Phases & Goals

Phase 1: Laying the Foundation (Year 1-2)

- Assess Current State
- Further develop and refine Digital Strategy
- Focus on Infrastructure and Security
- Learning Management System (LMS) Implementation

Phase 2: Implementation and Integration (Year 3-4)

- Enhance Student Services
- Empower Faculty and Staff
- Expand Digital Learning Offerings

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Digital Transformation – Phases & Goals

Phase 3: Continuous Improvement and Innovation (Year 5+)

- Data-driven Decision Making
- Emerging Technologies Integration
- Continuous Evaluation and Adaptation

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Continuous Improvement & Key Performance Indicators

At the core of our technology and digitization plan lies the commitment to **fostering continuous improvement**. By leveraging modern digital tools and methodologies, we aim to **optimize processes, enhance efficiency, and improve user satisfaction**.

Central to this approach is the implementation **of technology-focused Key Performance Indicators (KPIs)** to measure progress and guide strategic decision-making. KPIs will serve as the compass guiding our journey towards excellence. By defining clear, measurable metrics aligned with our organizational objectives we establish benchmarks for success and track performance across key areas.

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Appendix

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Appendix A – Inclusive Technology Language

Term	Suggested Alternative
master / slave	primary / secondary *or* primary / subordinate *or* main / replica *or* active / standby
whitelist / blacklist	permit (list) / block (list) *or* allow (list) / block (list)
“Stakeholder” is a term derived from colonial settlers placing stakes in the ground which then granted them exclusive use to the unceded lands of Indigenous peoples.	Out of respect for First Nations principles of ownership, control, access, and possession, consider instead: “working partners”; ”community partners” “interested parties”; “user groups”; “user community”; “affected parties”; “contributors”; “sponsors”; “collaborators".


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