MESSIAH COLLEGE

INFORMATION AND WEB TECHNOLOGY PLAN

2017-18 to 2020-21

Information and Web Technology Committee
Educational Technology Committee
Administrative Technology Committee

Spring 2017

Introduction

The efforts of the governance groups that drafted this document (Information and Web Technology Committee, IWTC; Educational Technology Committee, ETC; and Administrative Technology Committee, ATC) identified six themed areas of strategy and developed goals within those areas. These themes and goals represent a mix of best practice and promise. We also believe that these support the accomplishment of the mission of the College.

Each theme of this plan presents an accompanying brief context or vision. Each goal includes a timeline, budget, and an assignment of responsibility to personnel. We, the members of these governance committees, and Information Technology Services are serious about the accomplishment and assessment of our progress toward these goals. Our intent is to communicate progress on these goals on an annual basis to the appropriate governance groups and to any group that would like to know more.

Please support the efforts of the various persons and groups on campus that will make this plan a reality. It is our intention to create a better learning and working environment that allows us to use technology as a tool for our collective educational mission and mutual benefit.

Members of IWTC, ETC, and ATC

IT Strategic Plan 2017-2021

Theme 1:   **Review IT governance, policies, and procedures for efficiencies**
Context/Vision: Our governance, policies, and procedures should facilitate our work.
Some policies need refreshed and redundancies between them removed.

Goal 1:   Streamline IT policies by removing redundancy, improving readability, and updating to today's standards.

Timeline:	Review all policies during 2017-2018 academic year.
Budget:	No additional funds are required.
Responsibility:	ITS Security Analyst, ITS leadership team, and Information and Web Technology Committee

Goal 2:   Review the IT capital process for improvements
  a. Require analysis of ITS FTE support needed for each capital request (initial and ongoing support)
  b. Review the communication steps of the process and implement a mechanism for requestors to know the status of requests at any point.

Timeline:	2017-2018 academic year.
Budget:	No additional funds are required.
Responsibility:	Vice President for Information Technology, IT Operations Specialist for Budget, Planning and Research

Theme 2:   **Increase our campus community's data security awareness and capability**
Context/Vision: *The current cyber-environment requires employees and students to be aware of ways to protect the College's and their own data resources.*
Managing workforce change and system authorizations would be facilitated by a system that manages requests for and resulting communications about system access.

Goal 1:   Include security awareness in new employee training.

Timeline:	2017-18
Budget:	No additional budget
Responsibility:	ITS Security Analyst, HR office

Goal 2:   Provide security certification training for appropriate IT personnel to strengthen our security knowledge base and response capability.

Timeline:	2017-2021
Budget:	Current and augmented professional development budgets
Responsibility:	Director of Network Services and ITS Security Analyst

Goal 3: Review and revise our mobile security strategy and provide training for employees and students.

    Timeline: Develop mechanisms, venues and training materials during 2017-18.
    Implement training during 2018-2019.
    Budget: No additional budget required
    Responsibility: ITS Security Analyst, Communication Infrastructure Manager

Goal 4: Create an account authorization and access request application to facilitate the onboarding of new employees or changing roles of current employees.

    Timeline: 2017-18 develop specifications, coding, testing in-house; fall 2018 implementation
    Budget: No additional budget
    Responsibility: Director of Information Systems, programmer/analyst, HR representative

Theme 3: Support employee use of administrative systems and increase their digital proficiency
Context/Vision: Software and business processes must continually be evaluated and then updated or replaced in order to meet the demands of end-users; to keep up with constantly changing technology; and to respond to market-driven forces in Higher Education.
Employee skills also need ongoing development as the digital environment changes.

Goal 1: Provide training for the digital proficiency of employees toward increased productivity and effectiveness in today's cloud environment. (MC Strategic Plan – Theme 3 Goal 2) Description: What are the expectations for how we work at Messiah? How do we create an environment that supports our work and productivity, how do we orient new employees to how we work at Messiah (how do we expect people to use Office365, where do we store documents, how do we protect data and files, etc.).

    Timeline: Fall 2017 develop approach and materials; Spring 2018 begin training
    Budget: No additional funds expected
    Responsibility: Director of Information Services, Director of Learning Technology Services, Human Resources representative, Director of Faculty Development

Goal 2: Develop a strategy to convert the MCSquare portal for easier navigation, simpler user interface, better mobile productivity, and increased sustainability.

    Timeline: Basic specification and coding begin Summer 2017 with basic implementation ready for fall 2017; Ongoing development during 2017-2018 academic year looking toward fall 2018 for full implementation.

Budget: No additional funds required
Responsibility: Senior Administrative Programmer/Analyst with ATC, Director of Web, student representative to IWTC

Goal 3:   Implement new systems and make improvements to existing systems

a. VanillaSoft conversion/implementation – Development Office Client Relationship Management system

Timeline: Staying with CampusCall until July 1, 2017
Budget: N/A (covered by Advancement operational budget)
Responsibility: Senior Administrative Programmer/Analyst

b. SLATE implementation – Admission Client Relationship Management system

Timeline: Graduate recruitment processes onboard by mid-summer 2017;
Budget: Approved and budgeted for FY 2016-17
Responsibility: Administrative Programmer/Analyst with Admissions

c. Fully implement web time entry for all employees – HR/Payroll
                Undergraduate recruitment processes onboard by Spring 2018

Timeline: Fall 2017
Budget: Approved and budgeted for FY 2016-17
Responsibility: Senior Administrative Programmer/Analyst with HR & Compliance

d. Complete development and implementation of system for tracking employee compliance training – HR and Compliance

Timeline: End of Spring 2018
Budget: No additional budget required
Responsibility: Senior Administrative Programmer/Analyst with HR & Compliance

e. Support system modifications required for new strategic programs described in the College strategic plan
   i. Provide support systems for transfer enrollment (check sheets for program to program articulation agreements with community colleges)(MC Strategic Plan – Theme 2 Goal 2)

Timeline: Implement by end of spring 2017
Budget: No additional budget required
Responsibility: Senior Administrative Programmer/Analyst, Registrar, Director of International and Transfer Admissions

ii. Provide programming and administrative system support for programs in which courses enroll a mix of undergrad and graduate students (MC Strategic Plan – Theme 2 Goal 4)

Description: There are administrative features in Banner and workflow processes that need solutions in order to implement to programs with courses that enroll a mix of graduate and undergraduate students. 3+2 and 4+1 type programs require these issues to be solved.

Timeline: Fall 2018 complete administrative processes
Budget: No additional budget required
Responsibility: Dean of the Graduate School, Associate Provost, Director of Information Systems

iii. Provide Curriculum And Load Management (CALM) and Student Care Community (SCC) functionality extensions (MC Strategic Plan – Theme 2 Goal 1)

Timeline: As needed and ongoing
Budget: No additional budget required
Responsibility: Senior Administrative Programmer/Analyst with Coordinator of Student Retention and Associate Dean of Students

f. Obtain and implement organizational chart software for College-wide use

Timeline: Identify potential software applications/systems during summer 2017;
Make budget request during FY18 capital cycle in spring 2018;
Implement during summer and fall of 2018.
Budget: As capital budgets or operational budgets allow
Responsibility: Director of Information Systems; HRIS and Payroll Manager

g. Convert from current version of Banner to Banner 9

Timeline: Begin Fall 2017 – all modules and areas converted by July 2018
Budget: No additional budget required
Responsibility: Senior Administrative Programmer/Analyst with ATC

h. Obtain and implement upgrades to the mass e-mail system making the system:
- Easier to administer
- More user-friendly to users
- Compatible with technology being used to assist students with disabilities

Description: College Press Processes about 2,000 mass email requests each year (54% of these go to students; 46% to employees). Many of these emails need to include images, links, and special formatting.

Timeline:	Summer 2017:	Decide on an approach – reengineer or consider purchasing a system
	2017-2018:	Begin and complete implementation
Budget:	Determined by approach – reengineering would not involve additional capital or operational budget but would involve programming time.	
Responsibility:	Operations representative to IWTC, Director of Information Systems, Network Manager	

Goal 4:   Continue to develop our business analytics reporting capabilities
   a. Complete the conversion of all reporting to Cognos
       i. Description: no new Discoverer reports created during 2017. Shutdown on 12/31/17
       ii. Next steps with Cognos
           1. Automation
           2. Communication

Timeline:	December 2017 and continue support throughout plan's life
Budget:	No additional budget required beyond ongoing Cognos contract costs
Responsibility:	Information Services with ATC

Goal 5:   Implement a policy centralization system to facilitate the organization, accessibility, and maintenance of all policies

Timeline:	2017-18 review options and select a system for document management; 2018-19 implementation
Budget:	To be determined and requested as part of annual capital process and ongoing operational budget process
Responsibility:	Vice President for Information Technology and Vice President for Human Resources and Compliance

Goal 6:   Improve business processes/workflows by implementing electronic forms and E-signature and associated workflows

Timeline:	Begin Summer 2017 and ongoing
Budget:	No additional budget required
Responsibility:	Administrative Programmer/Analyst

Theme 4:   Support the education of our students by fostering improvements in the following areas
Context/Vision: Expanding enrollment and promoting educational excellence afforded by online technologies requires planning and preparation. The goals outlined within this theme support planning and programming required for effective infusion of technology for learning and administration of academic programming.

Goal 1:   Support both faculty and student research/scholarship and the library with a digital repository to promote and protect the scholarly information resources of the College (MC Strategic Plan – Theme 3 Goal 5)

        Timeline: Begin search for a system during 2017-18.
                              Submit either during 2017-18 or 2018-19 for funding options.
                              2018-19 or 2019-20 implementation.
        Budget: As capital and operational budgets and grant funding allow
        Responsibility: Provost's Cabinet, Director of the Library, a faculty member.

Goal 2:   Implement programming approaches (workshops, etc.) to improve the digital proficiency of educators and students in these areas:
a. Information Research and Retrieval (use of online, library, and open educational resources (OERs))
b. Information Validation (critical thinking, evaluation, and problem solving skills; mindful reflection)
c. Information Management - (network drives; Office 365)
d. Processing and Presentation of Information (digital artifacts)
e. Team-based Learning in Digital Environments (collaborative learning)
    i. Use of a/v technologies for collaboration (media recording, webcasting, projecting)
    ii. Use of learning management system (for improved learning and retention)
f. Awareness of Digital Integrity (legal, ethical, security, privacy)
g. Social Responsibility (social action, etiquette, balanced attitude toward tech (MC Strategic Plan – Theme 3 Goal 3)

        Timeline: By the end of the 2020-2021 academic year, programming will exist for faculty and students aimed at improving digital proficiency in all areas outlined.
        Budget: No additional funds expected.
        Responsibility: Director of Learning Technology Services, IT Security Analyst, Instructional Designers, ETC, IWTC

Goal 3:   Improve accessibility for all in both online and traditional classes by using a universal design approach in the following areas:
a. Closed Captioning
b. Sound Amplification Systems in Classrooms
c. PDF Creation (MC Strategic Plan – Theme 3)

        Timeline: By the end of the 2019-2020 academic year 90% of classrooms are equipped with sound amplification systems and 90% of videos used by the college are accessible via closed captioning.
        Budget: Capital funds will be required for closed captioning services and sound amplification systems
        Responsibility: Instructional Designers, Director of Innovative Technology, ETC, IWTC

Goal 4: Upgrade the assessment management system to provide more functionality and ease of use.

      Timeline: By the beginning of the 2017-2018 academic year multiple assessment management systems have been evaluated and piloted.
      By the end of the 2017-2018 academic year a new system has been implemented.
      Budget: Funds may be required for assessment management system
      Responsibility: VP for Information Technology, Instructional Designers, Director of Assessment, ETC, IWTC

Goal 5: Implement a curriculum/catalog management system

      Timeline: By the end of the 2019-2020 academic year a new curriculum/catalog management system will be implemented
      Budget: Funds may be required for curriculum/catalog system
      Responsibility: VP for Information Technology, ETC, IWTC

Theme 5: Improve business continuity by enhancing security and disaster recovery
Context/Vision: Continuing IT operations in a variety of stressed situations is critical to the health of the college.

Goal 1: Provide generator power – investigate costs and propose budget for connecting more of the campus network outside of the core to generator power.
a. Prioritize buildings in order of criticality
b. Obtain options and costs for the 4 highest priority buildings
c. Propose budget for implementation

      Timeline: Summer 2021
      Budget: One building per year as capital funding permits
      Responsibility: Director of Network Services, Director of Facility Services, Department of Safety

Goal 2: Increase security assessments and remediation
a. Investigate the potential of cost effectively performing vulnerability scans in-house
b. Develop plan for regular vulnerability scans (how often, type, who)
c. Propose budget for implementation
d. Develop plan for regular server patches and upgrades

      Timeline: Spring 2018
      Budget: $5,000-10,000/yr
      Responsibility: Director of Network Services, ITS Security Analyst

Goal 3: Enhance redundant base network services
a. Implement redundant dns/dhcp service across data centers

       b.   Spread critical redundant authentication services across data centers
       c.   Propose budget for implementing redundant highly-available firewalls

         Timeline: Fall 2017
         Budget: $12,000/yr for subscription services to implement c.
         Responsibility: Director of Network Services, Server Specialist

Goal 4:   Enhance and test our existing disaster recovery plan
       a.   Improve procedural documentation
       b.   Test disaster recovery in secondary data center in sandbox mode
       c.   Investigate alternate options and costs for moving backup data off-campus to enhance ability to use it more effectively for disaster recovery
       d.   Plan for off-campus alternatives for public DNS and web services to keep www.messiah.edu alive during a major on-campus outage.

         Timeline: Summer 2018
         Budget: To be determined
         Responsibility: Director of Network Services, Server Specialist, Director of Web

Theme 6:   **Improve our physical data and communication infrastructure to support both educational and administrative activities**
Context/Vision: Infrastructure provides the basis upon which all data and communication services operate; therefore, it is critical to the college to maintain and enhance the infrastructure for reliability and increased bandwidth over time.

Goal 1:   Upgrade and improve wireless in traditional residence halls.
Smaller devices (tablets, cell phones, fit devices, watches) with less powerful signal and newer wireless standards have come into common use by students requiring a revamp of wireless in the residences to continue meeting student expectations.

         Timeline: Summer 2021+ as budget permits
         Budget: ~$600,000 (est. $75,000 per building)
         Responsibility: VP of IT/Associate Provost and Director of Network Services

Goal 2:   Review and recommend options for high-speed internet resources, connection options, and services with suppliers such as KINBER and 3ROX.
       a.   Explore the interest from educational and administrative areas, infrastructure requirements, associated costs, and potential timeline

         Timeline: Summer 2021
         Budget: estimated roughly at $300,000 to $500,000
         Responsibility: VP for IT/Associate Provost, Director of Network Services, Communication Infrastructure Manager

Goal 3:   Continue to provide an up-to-date and competitive campus infrastructure that includes:
       a.   Create a detailed capital plan for each of the areas below with costs associated with a timeline and budget for each

1. Replacement of aging door access card readers
2. Maintenance and upgrade of fiber optic network to all single mode fiber
3. Maintenance and upgrade of network cabling infrastructure within buildings
4. Maintenance of current and provision of additional wireless network connectivity in classrooms, and athletic venues
5. Expand and improve cellular signal systems on campus (MC Strategic Plan – Theme 3 Goal 6)

Timeline: Summer 2021
Budget: As capital and operational budgets allow
Responsibility: VP of IT/Associate Provost, Director of Network Services, Director of Facility Services