Annual Administrative Unit Program Review
Worksheet 2015-2016

Administrative Unit Area: Information Technology

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Brian Orlauski, Dean of Information Technology

Academic Year: FY15-16

1. Administrative Unit Description

   a. Mission Statement

   "Provide the department/division mission statement that includes its primary functions, modes of delivery, and target audience."

   It is the mission of the Information Technology Department to provide an institutional computing environment that manages and maintains accurate, reliable, and efficient technology services for the success of the college community.

<table>
<thead>
<tr>
<th>Service</th>
<th>Function</th>
</tr>
</thead>
</table>
| Software Management      | • Assessment  
                          | • Installation  
                          | • Configuration  
                          | • Patching  
                          | • Customization  
                          | • Automation of processes  
                          | • Develop System Interfaces  
                          | • System Access Control  
                          | • System Testing  
                          | • Disaster Recovery administration |
| Software Development     | • Requirements definitions  
                          | • Feasibility Assessment  
                          | • System Design  
                          | • System Development  
                          | • Installation  
                          | • Automation of processes  
                          | • Configuration  
                          | • Patching  
<pre><code>                      | • Enhancement Requests      |
</code></pre>
<table>
<thead>
<tr>
<th>System Architecture and Planning</th>
<th>System Architecture and Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Change Control</td>
<td>• Develop system standards</td>
</tr>
<tr>
<td>• Develop System Interfaces</td>
<td>• Analyze potential efficiency gains</td>
</tr>
<tr>
<td>• System Access Control</td>
<td>• Identify and quote hardware solutions</td>
</tr>
<tr>
<td>• System Testing</td>
<td>• Install and configure hardware solutions</td>
</tr>
<tr>
<td><em>Develop system standards</em></td>
<td><em>Analyze potential efficiency gains</em></td>
</tr>
<tr>
<td><em>Identify and quote hardware solutions</em></td>
<td><em>Identify and quote software solutions</em></td>
</tr>
<tr>
<td><em>Participate in development of Technology Master Plan</em></td>
<td><em>Participate in share governance</em></td>
</tr>
<tr>
<td><em>Identify and quote software solutions</em></td>
<td><em>Participate in regional user groups</em></td>
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<thead>
<tr>
<th>Desksops</th>
<th>Desksops</th>
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<tbody>
<tr>
<td>• Specification standards</td>
<td>• Operating system management</td>
</tr>
<tr>
<td>• Operating system management</td>
<td>• System Access Control</td>
</tr>
<tr>
<td>• Application installation</td>
<td>• Configuration</td>
</tr>
<tr>
<td>• Configuration</td>
<td>• Operating system patching</td>
</tr>
<tr>
<td>• Application patching</td>
<td>• Manage login scripts</td>
</tr>
<tr>
<td>• Manage login scripts</td>
<td>• Inventory control</td>
</tr>
<tr>
<td>• Inventory control</td>
<td>• Virus mitigation</td>
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<table>
<thead>
<tr>
<th>Support Services</th>
<th>Support Services</th>
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</thead>
<tbody>
<tr>
<td>• Work order management</td>
<td>• Password resets</td>
</tr>
<tr>
<td>• Password resets</td>
<td>• User account management</td>
</tr>
<tr>
<td>• User account management</td>
<td>• End user support</td>
</tr>
<tr>
<td>• End user support</td>
<td>• Tutorial documentation</td>
</tr>
<tr>
<td>• Tutorial documentation</td>
<td>• Escalation services</td>
</tr>
<tr>
<td>• Escalation services</td>
<td>• Customer communications</td>
</tr>
<tr>
<td>• Customer communications</td>
<td>• Satisfaction surveys</td>
</tr>
<tr>
<td>• Satisfaction surveys</td>
<td>• Issue troubleshooting</td>
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<tr>
<td>• Issue troubleshooting</td>
<td>• Solutions and documentation</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Network Management</th>
<th>Network Management</th>
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<tbody>
<tr>
<td>• Network design</td>
<td>• ISP circuit administration</td>
</tr>
<tr>
<td>• ISP circuit administration</td>
<td>• DNS management</td>
</tr>
<tr>
<td>• DNS management</td>
<td>• Offsite webserver management</td>
</tr>
<tr>
<td>• Offsite webserver management</td>
<td>• Network monitoring</td>
</tr>
<tr>
<td>• Network monitoring</td>
<td>• VLAN administration</td>
</tr>
<tr>
<td>• VLAN administration</td>
<td>• iSCSI Lan administration</td>
</tr>
<tr>
<td>• iSCSI Lan administration</td>
<td>• Firewall design</td>
</tr>
<tr>
<td>• Firewall design</td>
<td>• Router administration</td>
</tr>
<tr>
<td>• Router administration</td>
<td>• Switch administration</td>
</tr>
<tr>
<td>• Switch administration</td>
<td>• Student wireless administration</td>
</tr>
<tr>
<td>• Student wireless administration</td>
<td>• Remote access administration</td>
</tr>
<tr>
<td>• Remote access administration</td>
<td>• Federated network integrations with 3rd parties</td>
</tr>
<tr>
<td>• Federated network integrations with 3rd parties</td>
<td>• Intrusion detection</td>
</tr>
</tbody>
</table>

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<td>• DNS management</td>
<td>• Offsite webserver management</td>
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<tr>
<td>• Offsite webserver management</td>
<td>• Network monitoring</td>
</tr>
<tr>
<td>• Network monitoring</td>
<td>• VLAN administration</td>
</tr>
<tr>
<td>• VLAN administration</td>
<td>• iSCSI Lan administration</td>
</tr>
<tr>
<td>• iSCSI Lan administration</td>
<td>• Firewall design</td>
</tr>
<tr>
<td>• Firewall design</td>
<td>• Router administration</td>
</tr>
<tr>
<td>• Router administration</td>
<td>• Switch administration</td>
</tr>
<tr>
<td>• Switch administration</td>
<td>• Student wireless administration</td>
</tr>
<tr>
<td>• Student wireless administration</td>
<td>• Remote access administration</td>
</tr>
<tr>
<td>• Remote access administration</td>
<td>• Federated network integrations with 3rd parties</td>
</tr>
<tr>
<td>• Federated network integrations with 3rd parties</td>
<td>• Intrusion detection</td>
</tr>
</tbody>
</table>
| Communication Infrastructure                      | • Exchange email account management  
|                                                 | • Exchange email server installation  
|                                                 | • Exchange email server configuration  
|                                                 | • Exchange email patching  
|                                                 | • Email spam filter administration  
|                                                 | • Student email account provisioning  
|                                                 | • Student email account troubleshooting  
|                                                 | • Fax machine administration  
|                                                 | • Pay phones administration  
|                                                 | • Cell phones account administration  
|                                                 | • Cisco phone system account management  
|                                                 | • Cisco server patching  
|                                                 | • Cisco server installation  
|                                                 | • Cisco server configuration  
|                                                 | • Phone tree administration  
|                                                 | • Exchange Listserv management  
|                                                 | • Blackberry server administration  
|                                                 | • System monitoring and paging administration  
|                                                 | • Security camera system administration and design  
| System Access                                  | • CNSA administration  
|                                                 | • CNAR administration  
|                                                 | • Firewall configuration  
|                                                 | • Intrusion detection  
|                                                 | • Active Directory administration  
|                                                 | • Active Directory patching  
|                                                 | • Active Directory clustering  
| Database Administration                        | • Database server specifications  
|                                                 | • Database server configuration  
|                                                 | • Database software installation  
|                                                 | • Database patching  
|                                                 | • System access control  
|                                                 | • Automated processing  
|                                                 | • Disaster recovery  
|                                                 | • Define data definitions  
|                                                 | • Data mapping  
|                                                 | • Data querying  
|                                                 | • System integration  
|                                                 | • Performance monitoring  |
| Web Server Administration | • Firewall administration  
|                          | • DNS configuration  
|                          | • IIS administration  
|                          | • Silverlight configuration  
|                          | • Servlet administration  
|                          | • JSP development  
|                          | • SSO administration  
|                          | • Account management  
|                          | • ASP configuration / development  
|                          | • Browser support  
|                          | • PCI compliance  
|                          | • Apache/Tomcat administration  
|                          | • SSL certificate administration  
|                          | • HTML development  
| Project Management       | • Define project scope  
|                          | • Define project requirements  
|                          | • Define technical requirements  
|                          | • Analyze potential solutions  
|                          | • Document project  
|                          | • Implement solutions  
|                          | • Integrate existing architecture  
|                          | • Support implemented solutions  
|                          | • Define test scripts  
|                          | • Implement access control solution  
| Mandated Reporting       | • Review regulatory requirements  
|                          | • Define data requirements  
|                          | • Map procedures to data requirements  
|                          | • Collaborate with data owners  
|                          | • Analyze data  
| Printer Administration   | • Printer configuration  
|                          | • Print server administration  
|                          | • Printer inventory administration  
|                          | • Printer troubleshooting  
|                          | • Copier troubleshooting  
| Disaster Recovery        | • Maintain expectations for system downtime  
|                          | • Configure and administer clustered systems  
|                          | • Configure and administer failover systems  
|                          | • Define system disaster recovery requirements  
|                          | • Administer enterprise backup solution  
|                          | • Administer localized desktop recovery solution  |
b. Organizational Chart

Provide an organizational chart of your unit

- (1) Dean of Information Technology
  - (1) Administrative Assistant
  - (1) Network Supervisor - SJC
    - (1) Network Tech IV [Vacant]
    - (1) Network Tech III - Bond [Vacant]
    - (1) Telecommunications Network Coordinator
    - (1) Network Tech II
  - (1) Network Supervisor - MVC
    - (1) Network Tech IV [Vacant]
    - (1) Network Tech III
    - (2) Network Tech II
  - (1) Computer Applications Supervisor
    - (1) Senior Programmer Analyst - STEM [Vacant]
    - (1) Senior Programmer Analyst [Vacant]
    - (1) Senior Programmer Analyst
    - (1) Software User Liaison
    - (1) Systems Analyst, Information Technology Coordinator
  - (1) Web Development & Applications Security Supervisor
    - (1) Senior Programmer Analyst

c. Staffing (Full, Part Time, Temporary, Consultants/Professional Experts, Student Workers, etc.)

List and briefly describe each position in the unit.

<table>
<thead>
<tr>
<th>#</th>
<th>Position</th>
<th>Annual Staff Hours Available</th>
<th>Est Time Sustaining Current Processes</th>
<th>Est Hrs Available for New Initiatives</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dean</td>
<td>1800</td>
<td>85%</td>
<td>1530</td>
<td>270 Policy Development</td>
</tr>
<tr>
<td>1</td>
<td>Administrative Associate</td>
<td>1840</td>
<td>90%</td>
<td>1656</td>
<td>184 Clerical</td>
</tr>
<tr>
<td>2</td>
<td>Network Supervisor</td>
<td>3680</td>
<td>75%</td>
<td>2760</td>
<td>920 System and Network Infrastructure and Security</td>
</tr>
<tr>
<td>1</td>
<td>Supervisor of Computer Applications</td>
<td>1840</td>
<td>80%</td>
<td>1472</td>
<td>368 Student Information System and Imaging System Administration</td>
</tr>
<tr>
<td>1</td>
<td>Supervisor of Web Development and Applications Security</td>
<td>1840</td>
<td>80%</td>
<td>1472</td>
<td>368 Application Security Administration and Auditing</td>
</tr>
<tr>
<td>#</td>
<td>Position</td>
<td>Base Rate</td>
<td>%</td>
<td>Hours</td>
<td>Position Description</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------</td>
<td>-----------</td>
<td>---</td>
<td>-------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Network Technician IV</td>
<td>1840</td>
<td>80%</td>
<td>1472</td>
<td>368 Systems Analyst</td>
</tr>
<tr>
<td>2</td>
<td>Network Technician III</td>
<td>3760</td>
<td>80%</td>
<td>3008</td>
<td>752 Server, communications systems, and applications operations</td>
</tr>
<tr>
<td>3</td>
<td>Network Technician II</td>
<td>5520</td>
<td>90%</td>
<td>4968</td>
<td>552 Desktop computing support and helpdesk operations</td>
</tr>
<tr>
<td>2</td>
<td>Senior Programmer Analysts (permanent)</td>
<td>3760</td>
<td>80%</td>
<td>3008</td>
<td>752 Colleague, Blackboard, Reporting, and OnBase programming and application support</td>
</tr>
<tr>
<td>1</td>
<td>Senior Programmer Analyst (STEM)</td>
<td>1840</td>
<td>50%</td>
<td>920</td>
<td>920 STEM related Colleague, Data Warehouse, and OnBase programming and application support</td>
</tr>
<tr>
<td>1</td>
<td>Software User Liaison</td>
<td>1880</td>
<td>80%</td>
<td>1504</td>
<td>376 Colleague, Blackboard, and OnBase application support</td>
</tr>
<tr>
<td>1</td>
<td>Systems Analyst, Information Technology Coordinator</td>
<td>1840</td>
<td>80%</td>
<td>1472</td>
<td>368 Colleague and OnBase application support, business process support</td>
</tr>
<tr>
<td></td>
<td><strong>Totals</strong></td>
<td><strong>31,440</strong></td>
<td><strong>25,242</strong></td>
<td><strong>6,198</strong></td>
<td></td>
</tr>
</tbody>
</table>

2. **Administrative Unit Needs Assessment**

   a. **DEPARTMENTAL/DIVISION DATA AND RESEARCH**

   i. **Summarize Key Indicators for Department/Division**

      Report the number of customers served and/or provide a general description of the population(s) served by the department (students, faculty, staff, community, etc.) in academic year 2015-2016.

      External formal contacts from the populations served by the department have been historically measured using work orders logged within the BMC Track-It! software utilized by the MSJC Helpdesk. For the October 2014 through September 2015 timeframe, Information Technology staff completed 4714 work orders. This workload represents a decrease of 455 from the previous year and a 3% increase from the 2011 program review cycle. The count of contacts does not reflect planning sessions, the infrastructure projects associated with each campus location, wireless access deployment, linked conference room equipment upgrades, mandated reporting, CAST meetings, Shared Governance, project management collaboration, nor informal system verification and testing with customers. The count also does not reflect the number of staff hours required to complete each work order.
Specific work orders related to telecommunications additions and modifications include: 237 phone change orders; 26 quotes for additional net-new phones; 162 calls for phone related assistance.

In addition to the formal contacts, the Information Technology department utilizes systematic monitoring of networks, software processes, and systems in order to trigger automated alerts to technology team members regarding the status of those systems. Information Technology staff must evaluate and potentially respond to notifications from monitoring software with is used to alert Information Technology staff to unusual conditions in the physical space of each server room, power availability and conditions, network traffic patterns, server system performance, and storage performance and availability. Because of the lack of a log and event management tool, all alerts are sent via email to all technical staff who support any of the relevant systems and equipment. The number of automated alerts is measured by notifications received, as each notification requires review for severity followed by a potential action of resolution. For the October 2014 through September 2015 timeframe, IT staff received 224,775 notifications. This number represents a 12% decrease from the previous year.

The District has been increasing FTES over the last four academic reporting years:

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Total FTES</th>
<th>FTES Growth</th>
<th>Student Headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>10,052</td>
<td></td>
<td>19,894</td>
</tr>
<tr>
<td>2013-14</td>
<td>10,622</td>
<td>6%</td>
<td>20,093</td>
</tr>
<tr>
<td>2014-15</td>
<td>10,800</td>
<td>2%</td>
<td>21,283</td>
</tr>
<tr>
<td>2015-16</td>
<td>11,848</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>(P1 Exhibit C)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*FTES Source:* CCCCO Apportionment Reports Recalculation Apportionment (R1), Exhibit E and 2015-16 First Principal Apportionment (P1), Exhibit C
http://extranet.cccco.edu/Divisions/FinanceFacilities/FiscalServicesUnit/Reports/ApportionmentReports.aspx

*Student Headcount - Source:* CCCCO Data Mart Student Count
http://datamart.cccco.edu/Students/Student_Term_Annual_Count.aspx

This growth has increased the demands on the Information Technology department, increasing the number of student and faculty accounts, as well as account and access related work orders. Increases in the student population has led to the District increasing services offered, increasing the incidental contacts and requests for technology development, deployment, and maintenance.
Some of the new student-facing applications and services that Information Technology has assisted in the development, deployment, and added support for during this time include:

- Colleague Self-Service, with MSJC customizations
- Canvas Learning Management System
- AcademicWorks scholarship search and application system
- PortalGuard self-service password reset and single sign-on
- Priority Registration
- Increased Student wireless access points

There have been a number of services needed that are not visible to students, yet are related to the increase in the number of students, faculty, and staff at the district that required Information Technology staff time to develop, deploy, and support:

- Tableau ad-hoc reporting solution
- 10 Gbps connection between the Menifee and San Jacinto campuses
- Administrative wireless access
- Server infrastructure to support additional servers and services
  - Backup and Recovery
  - Disaster Recovery
- Virtual server environment
- Secure storage network for server infrastructure

Some systems and system infrastructure have not been adapted to meet the increasing needs of the increasing population, due to lack of staff time available to complete the process. An example is that the Colleague system is on a hardware and software platform that will soon fall out of warranty. There is a plan to migrate this system to Microsoft Windows, running on SQL Server, but this plan requires significant staff time to complete successfully.

Maintenance operations include regular maintenance of critical system infrastructure and software environments. During the October 2014 through September 2015 timeframe, Information Technology performed the following system updates:

- Colleague: 175 updates researched, tested, validated using the C.A.S.T. committee, and installed in production and non-production environments. MSJC customizations must be researched and potentially rewritten due to Colleague updates.
- Blackboard: 2 full releases, 11 cumulative updates, and 53 building block updates where researched, tested, and installed in production and non-production environments.
- Microsoft Windows Server updates: Four to Six times per year, server updates are manually applied to 85 servers, directly consuming 64 to 96 staff hours. Additional time is spent preparing for each of these update sessions.
Regarding the network infrastructure, of the 99 edge network switches currently utilized at the District, the majority of the District edge network equipment and fiber optics is at end of life and incapable of supporting 10+Gbps network traffic. A 10+Gbps network is required to support technology required for modern education; i.e. wireless access, video streaming, and network-based collaboration. Information Technology did replace the core switch equipment at SJC and MVC two (2) years ago. These core switches will require upgrades to support District wide 10+Gbps network traffic. Additionally, the edge switch equipment requires recapitalization to support 10+Gbps network traffic as well as functions to support emergency communication systems and wireless access points. The estimated cost to replace the switch infrastructure to support 10+Gbps is $550,000. The fiber optics at MVC and SJC are not capable of supporting 10+Gbps network traffic. A fiber optics recapitalization will be required to replace the fiber optics at both major campuses to support 10+Gbps network traffic.

The Cisco VoIP phone system core infrastructure will become end of life in 2016-2017. Additionally, the District maintains a fleet of 718 aging Cisco phones/handsets. More than 600 handsets are at end-of-life and will require replacement within two years. The Cisco handsets are critical to campus safety as in 2016-2017 the handsets will be integral to the District emergency communications operations as MSJC implements E911, enhanced emergency notification, and unified communications. The integrated emergency notification System with our Cisco IP phone system should include phones in the classrooms, IP speakers and emergency help phones, and notification to desktop computer systems on all college campuses. Lastly, the VoIP phone system should include independent voicemail boxes for each Associate Faculty member.

ii. Has there been any change in the status of your unit (since the last program review cycle)?

Yes. The need to provide a more stable and resilient server environment has required a large-scale migration to a more robust virtual server environment. This move has increased the ability of Information Technology to support additional servers and services, but this comes at a cost, as the existing staff now manages a larger number of services, along with the more complex infrastructure needed to support them.

Information Technology team members often respond to systematic notifications in off-hours of system failures and intrusion detection systems.

Several new positions were funded for the Information Technology department, but remain vacant after several attempts to fill them, due to difficulty in recruiting qualified applicants. These positions include:
- Network Technician III (Measure AA Bond Funded)
- Network Technician IV
• Senior Programmer / Analyst

The Information Technology department was able to restructure the existing staff training room at SJC.

iii. Have activities in other areas of the district impacted your unit?

Yes. The following federal, statewide, and institutional initiatives have required staffing hours from the Information Technology department for design, implementation, and support:

1. Statewide Student Success Initiative – The SSSP program has required support from every Information Technology staff member in support of the following areas:
   a. Increase in mandated reporting data collection, data management, and data reporting
   b. Registration Priorities and Student Standings
   c. Student Education Planning
   d. Software support
   e. Networking

2. Institutional Data Warehouse – The computer applications and web development staff in Information Technology currently support a number of additional servers and processes to provide the data warehouse.

3. Affordable Care Act – The Human Resources, Business Services, and Information Technology departments continue to collaborate to meet the mandates of reporting for the ACA.

4. Institutional reorganizations impact inventory management, network infrastructure, and data consistency and correctness.

5. Measure AA Bond – The bond related initiatives will continue to require technology staff for project management, building design, technology standards, and building implementation. The addition of buildings will add technology support demands for computers, networks, wireless, security equipment, and communication equipment.

6. Learning Management System (LMS) – The institutional decision to migrate to Canvas as a new LMS, while continuing to utilize and require support of the existing Blackboard LMS, requires additional Information Technology staff time.

7. Security – The Information Technology department continues to respond in off-hours to security incidents as a result of notifications from video surveillance and alarms.

8. OEI Course Exchange – Supporting the course enrollment of MSJC students in course work at other institutions, as well as remote students in our own course offerings will require a major reworking of the entire registration, drop, Financial Aid awarding, billing, and other related processes. This task will require substantial technology staff time.

9. Institutional Research - The IR department has been requesting increasing amounts of support for generation of reports as well as improvements to the Data Warehouse. Support of these requests has utilized additional staff time.

10. District Wide - Increased hiring has increase the number of desktop and phone deployments, system security role configurations, and support requests to the Helpdesk.

j. **DEPARTMENTAL/DIVISION ASSESSMENT**

i. **Administrative Unit Outcomes and Assessment**
Number of defined administrative unit outcomes: 3

List all Administrative Unit Outcomes for the Department/Division

1. The IT department will provide a technology infrastructure that is conducive to student learning and district operations, by providing an institutional computing environment that is robust, reliable, secure, and adaptive to the expanding requirement for remote services. The department will continually assess the infrastructure and provide recommendations to maintain currency in the institutional technology needs.

2. The IT department staff will maintain proficiency in the hardware and software deployed at the institution, applicable to their role at MSJC.

3. The IT department will recommend and support the software needed for student, faculty and staff communications and operations. (Note, in direct support of ILO #1 regarding Communication)

Number of administrative unit outcomes with ongoing assessment:

What percentage of departmental staff have participated in the development and/or assessment of administrative unit outcomes? 100%

ii. Assessment Reports

Has the department/division generated any type of report summarizing performance on the administrative unit outcomes? Yes

The Information Technology department conducts a report each summer at our divisional retreat. The report contains goals, objectives, and outcomes. Additionally, Information Technology solicits feedback from Information Technology staff and evaluates work order requests from faculty, staff, students, and administrators to determine effectiveness of improving our ability to satisfy our AUOs.

Additionally, the Computer Applications and Web Development sectors of the Information Technology department have prepared a specific report detailing their performance. This document is attached, labelled “Attachment A – CAWD Administrative Annual Program Assessment”

iii. Dialogue about Assessment Results

Summarize the most recent academic year assessment results. (250 words or less)

Prompt: What types of dialog regarding assessment results have taken place within the department/division? What specific changes have been made to respond to outcome assessment results? Describe recommendations for the short and long-term.

The department outcomes are discussed and defined at the department annual retreat with input from the entire department. The department has mechanisms to assess goals and learning outcomes using data, including work order management systems and through the tracking of staff development. All department team members participate and document
participation in monthly innovative assessments regarding Information Technology processes. The department participates in the District's defined Program Review process as part of the comprehensive reporting mechanism.

Supervisory and staff assessments occur in Department and weekly supervisor meetings. Supervisors meet with department staff on a weekly basis and review staffing levels and work order demand. Assessment is performed on work orders received and work orders completed based on work order type and based on technician. In addition, IT maintains an annual IT retreat in which learning outcomes, goals, completed projects, and planned projects are discussed and correlated. Lastly, all Information Technology team members participate in critical thinking activities related to the learning outcomes in which they document recommendations for improvement. These recommendations are aggregated, discussed, and some are utilized for departmental improvement related to the learning outcomes and goals.

3. Planning and Resource Requirements

To inform the next round of institutional planning, please list and discuss your goals and objectives, along with any additional facilities, staff, technology, equipment, and professional development that would improve effectiveness or increase department productivity. Specifically connect your goals and needs with the analysis of department/division data and assessment above.

a. Program Goals

i. Identify goals and objectives of your program and describe how you will attain them. Which of these will you begin addressing this year?

For the Information Technology department, goals are collaboratively developed at a summer annual retreat. As a department supporting Instructional and Student Services in student learning, initiatives are proposed by sponsoring departments. Information Technology supports those initiatives by allocation technical staff to implement and assist in sustaining. As such, the Information Technology department often relies on participation from other departments for successful implementation of initiatives. The following goals have been identified for the 2015-2016 academic year:

1. Proliferate student wireless in all classrooms
2. Support counseling in the implementation of an electronic student education plan
3. Implement a Total Cost of Ownership model for technology
4. Support Research in the development of an institutional data warehouse
5. Improve the management of institutional data
6. Develop standardized process for project prioritization

ii. Briefly summarize how department/division goals/objectives support the 2014-2017 MSJC Strategic Plan. Please address how the department/division goal supports the Strategic Plan goal(s), what action(s) will be taken, and the timeline for anticipated completion of the action.

<table>
<thead>
<tr>
<th>GOAL/OBJECTIVE</th>
<th>STRATEGIC PLAN GOAL(S)</th>
<th>ACTION PLAN</th>
<th>TIMELINE FOR COMPLETION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>Goal(s)</td>
<td>Description</td>
<td>Timeframe</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Proliferate student wireless in all classrooms</td>
<td>Goal 1</td>
<td>Many classrooms are covered, but for complete coverage, we will utilize consultants to assist in the development of a deployment plan, and the deployment of remaining Access Points.</td>
<td>Fall 2016</td>
</tr>
<tr>
<td>Support counseling in the implementation of an electronic student education plan</td>
<td>Goal 2, 7</td>
<td>Initial deployment has completed to faculty, but deployment to students is still pending. Ongoing support involves merging MSIC customizations into quarterly vendor updates.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Implement a Total Cost of Ownership model for technology</td>
<td>Goal 4</td>
<td>Review and approve AP during upcoming annual policy and procedures workshop.</td>
<td>Summer 2016</td>
</tr>
<tr>
<td>Support Research in the development of an institutional data warehouse</td>
<td>Goal 1, 2, 4</td>
<td>Initial development is complete, with regular updates ongoing. More efficient processes are under development, providing rapid development capabilities to Research.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Improve the management of institutional data</td>
<td>Goal 2, 4, 5, 7</td>
<td>Create data standards, integration, protection, and governance</td>
<td>Fall 2016</td>
</tr>
<tr>
<td>Develop standardized process for project prioritization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop an adopted migration plan for the district ERP system</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Resource Requirements**

**A. Facilities**

> Identify facility needs (i.e. new facilities, improvements to existing facilities) based on the data and analysis above that would improve student success and department/division effectiveness.

In order for the IT department to provide a technology infrastructure that is conducive to student learning and district operations, by providing an institutional computing environment that is robust, reliable, secure, and adaptive to the expanding requirement for remote services, the District requires operational datacenters that have reliable power and environmental management. The District currently does not have operational datacenters. At a minimum, the
current server rooms should have generator backup power as well as dual HVACs with isolated circuits to support District communications and student access in times of power outages.

Additionally, the Information Technology department suggests a dedicated staff training room at the Menifee Valley Campus. In order to support professional development, training courses often need to be scheduled during the academic term. A dedicated staff training room would increase the ability of the department to sustain relevant knowledge and skillsets, as well as improve the training of staff from other departments.

The Information Technology department does not have the physical space to support all requested positions. If the department is successful in recruiting the requested positions required to support critical District functions, the department will require additional office space.

The physical space in San Jacinto designated as office space supports a maximum of seven (7) personnel, including two vacant positions actively being recruited. All other office space being utilized for storage of new and existing equipment awaiting deployment, repair, or surplus.

The physical space in Menifee can support a maximum of sixteen (16) personnel, with fifteen (15) currently funded positions, and all vacancies being actively recruited. Some office space being utilized for storage of new and existing equipment awaiting deployment, repair or surplus. There is minimal physical space for storage for staging equipment at the Menifee campus that is shared with Academic Technology Services.

All physical locations currently occupied by Information Technology staff are housed within buildings and rooms designated as instructional space, due to the lack of facilities designated for administrative support.

The District fiber infrastructure is old and obsolete. The SJC fiber backbone was last refreshed in 2000 over fifteen (15) Years ago. MVC fiber is even older and except for the new buildings the infrastructure has never been refreshed only building 400 infrastructure will support 10Gbps. This capability is outmoded given the current and forecasted technologies for voice, video, data, storage, security systems and wireless access with widespread utilization throughout the campus by students, faculty and staff. The need to enhance the College’s fiber backbone to support the greater technology demands of today and provide future transmission capability of up to 40Gbps and 100Gbps in conjunction with new networking electronics and standards. A more robust system would meet the demands for the ever growing new and future technology demands to support the college mission of student success, system access, security and reliability.

**B. Staffing**

*Identify staffing needs (i.e. reclassification, new positions) from the data and analysis above that would improve student success and department/division effectiveness.*
The following staffing needs have been identified to support District operations:

1. **Network Tech II (2)** - The Network Tech II positions provide support for desktop and printing operations for staff, faculty, and administrators. Information Technology currently does not maintain support staff for TEC, THEC, or The Pass locations. Currently, as work orders for those off-site locations are received, staff are scheduled at a future date to respond to the work order. With the addition of THEC, work orders have increased for off-site locations and additional staff will be required to support District operations in the off-site locations.

2. **Network Tech III (2)** – The Information Technology department currently maintains more than 160 servers and virtual servers. Currently, two (2) staff are responsible for operations, access management, and disaster recovery for these systems. With an average work load of maintaining 75 server instances per staff member, the Information Technology staff has required the outsourcing of low voltage cabling. Two (2) network tech III positions should be funded to support lower cost in-house network cabling as well as bring the staff to server ratio to under 50-1.

3. **Technology Security Analyst (1)** – The District does not currently staff a security analyst focused on application and system security. In an effort to further protect student and employee information due to a systems breach, the District should fund a technology security analyst position.

4. **Database Administrator (1)** – The District does not currently staff a database administrator. Since the last program review cycle, the District is planning or has implemented the following applications that require database tuning and database security management:
   
   a. SharePoint
   b. Data warehouse
   c. OnBase document imaging
   d. Colleague on SQL

5. **District Software Trainer (1)** - MSJC should invest in training staff to sustain technological investments and adopt a TCO model for all technology investments prior to initial purchase.

6. **Technical Project Coordinator (1)** – The District should invest in a Technical Project Coordinator staff member to facilitate the completion of technology related projects and bond related projects. Currently, departments requesting technical related projects are expected to manage the implementation of those requested projects. Feedback to Information Technology management indicates that those requesting departments would benefit from the Information Technology department managing the implementation of technology related projects.

7. **Data Analyst (1)** – Data integration requests for cloud-based services and new mandated reporting requirements have placed increased workload pressure on the Senior Programmer/Analyst staff members. A data analyst staff member should be funded to
facilitate improved accuracy of reporting to the state Chancellor’s Office as well as provide quicker analysis of cloud-based reporting solutions.

8. **Software User Liaisons (11)** – The District should further invest in Software User Liaisons to support the institutional website, design of online forms, documentation of business processes, implementation of mobile applications, and to facilitate departmental trainings.

9. **Programmer IV (1)** – The District should invest in additional programming staff to support development within a content management system and electronics form processing platform, such as SharePoint and InfoPath, allowing the District to better develop and utilize electronic forms, increasing staff efficiency and reducing paper processes.

**C. Technology**

*Identify any technology needs (i.e. new/updated equipment, new/updated software, etc.) from the data and analysis above that would improve student success and department/division effectiveness.*

Current departmental technology needs should be adequately funded through the technology reserve. Additional technology initiatives, such as mobile applications and the implementation of a web-based portal would require an augmentation for long-term sustainability.

The following technology purchases should be supported during this program review cycle:

- Log and event management software
- Application monitoring (Additional Orion module)
- Fully purchase SQL Server Enterprise licenses
- VoIP phones for classrooms
- Network Load Balancers
- E911 and emergency notification enhancements through Informacast
- Fiber optics recapitalization project for MVC (site-wide)
- Fiber optics installation for MVC building 3000
- Datacenter firewall
- Additional wireless network access points

**D. Equipment**

*Identify any equipment (i.e. office supplies, equipment too expensive for the department budget) from the data and analysis above that would improve student success and department/division effectiveness?*

- Network diagnostic equipment
- Emergency communication equipment
- Access controls for rooms and buildings
- Backup generators and power distribution systems for server rooms housing
E. Professional Development

Identify professional development opportunities that would improve student success and department/division effectiveness?

- .net training for programming staff
- Ellucian Self-Service and Colleague API specific training
- Data Warehouse fundamentals
- Project Management and time management
  - General problem solving / critical thinking / efficiency improvement
- Electronic forms and workflow authoring and management
- Checkpoint firewall configuration training
- Cisco network training
- Aerohive wireless network design training

III. Budget Allocation

RAP (Resource Allocation Proposal) Submissions

For which needs identified previously in this program review will you be submitting a RAP?

- Technical Project Manager position
- Information Technology physical office space and storage space
- Log and event management software

IV. Final Summary

A. Based on the data and analysis contained in this review, please forward your three greatest needs to your dean/division vice president.

1. System Security Analyst
2. Database Administrator
3. Technical Project Manager

B. Discuss any major activities/highlights/achievements and any innovations during the past year.

- Initial implementation and deployment of Student Education Plan solution to counselors
- Deployment of institutional reporting solution to district end users
- Large-scale migration from Hyper-V virtualization environment to VMWare environment
- Migration from previous Microsoft Data Protection Manager based backup solution to the new Veeam based solution
- Enhancement of the business processes and data integration between the Bookstore and Information Technology
- Modification of the registration process to encourage increased membership in the Student Government Association
- Integration with the Galaxy data system to allow reporting and analysis of Payroll and Budget data within the district data warehouse
- Implemented the AcademicWorks scholarship application and management system for the MSJC Foundation office
- Implemented the Canvas Learning Management System for the Online Education Initiative project
- Implemented the SharePoint 2013 based Intranet site at portal.msjc.edu
- Successful submission of Gainful Employment mandated reporting
- Implementation of OnBase document management system for the Measure AA bond documents
- Phase 2 of implementation of state mandated registration priorities enhancements
- Modernization of District conference rooms
- Modernization of District training room (SJC 159) and the implementation of video conferencing functionality for the training room

C. Please list all staff who participated in this review.

Brian Orlauski
Staci Ferris
Katherine Stratton
Fred Madore
Justin Bennett
Aaron Stafford
Robert Holman
Nick Abbondanza
Stephen Sandstrom
Jared Davis
Michael Palacios
Anthony Sanchez
Lon Smith
Marcus Castellanos
Cheryl Smith
Chris Platt
David Haddad

D. Any suggestions, concerns or constructive criticism regarding the MSJC program review process?

The review process does not have a section for departments to identify internal processes that are lacking or needing of funding when they do not directly affect student success. Many departments have business processes that are inefficient, either due to lack of training in alternate processes.
There is a need to create a better catchment process for work orders and projects completed within the IT department. It has been found that there are some work orders that are present on the work order/ticketing system queue that may not have required certain levels of intervention. Due to these instances there are some work orders open in the work order system that present as unresolved; however, they are in actuality non-actionable items or required a different type of escalation. The work order system often serves as a catalyst to begin IT intervention which may not always result in deliverables, action, or escalation beyond support or consultative services. The prescriptive formula and recommendation to resolve this is to look at the information stored within the work order system and identify what broad items would be seen as actionable IT items against requests that do not require a deeper level of IT interaction and involvement. By identifying these items IT will have a more concise picture of actual IT work and project timelines; as well as, resources utilized and completion rates.

It was observed among IT staff members that there must be an enhanced focus on project management. There are multiple projects overlapping within the department and organization which requires multiple resources. There are multiple SMEs (Subject Matter Experts) available during project implementation; however, it is often found that information gathering and sharing is inconsistent. MSJC licenses tools such as Microsoft SharePoint and Microsoft Project that can be leveraged to provide better consistency among information sharing and project progress. The prescriptive formula or recommendation is to continue to utilize project management tools (Microsoft SharePoint and Project) as earlier discussed; as well as, the possibility of looking into an IT project manager or having key staff Lean Six Sigma certified.

IT has become the majority stakeholder in the CAST committee. The focus should change from IT as the primary shareholder and turn the group into a teaming or collaborative community. These processes utilize SMEs (Subject Matter Experts) to address relevant topics at the forefront. Collaborative communities also allow departments to reach across the aisle to address project or process bottlenecks at the point of contact among professionals rather than let inconsistency continue to occur. For these processes to improve the CAST committee must have empowered attendees that have a reasonable amount of authority to make ground-level decisions. There must also be a shared investment among all CAST committee members. It may simply be that the “wrong people are at the table” as far as committee members as this committee has the potential to be a highly effective steering committee. CAST members need to have equal buy-in for the group to become a powerful team that can remain flexible and productive. The prescriptive formula and recommendation is to look at team members in attendance and determine if they are an appropriate fit or simply someone sent as a delegate who has no decision making power or influence. Committee members must also equally commit by bringing relevant topics to the table where change can occur. It is also important for the attendance members to understand that IT facilitates the meeting; however, this is a group effort and all individuals should provide a level of in-house expertise to quickly and effectively resolve items of concern.
The MSJC Network Technology infrastructure includes the following:

<table>
<thead>
<tr>
<th>Device</th>
<th>Number of Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network switches</td>
<td>99</td>
</tr>
<tr>
<td>Core switches</td>
<td>2</td>
</tr>
<tr>
<td>Network routers</td>
<td>9</td>
</tr>
<tr>
<td>Security cameras</td>
<td>104</td>
</tr>
<tr>
<td>Networked security camera recorders</td>
<td>2</td>
</tr>
<tr>
<td>Firewalls</td>
<td>2</td>
</tr>
<tr>
<td>Monitored UPS’</td>
<td>21</td>
</tr>
<tr>
<td>Infrastructure wireless bridge</td>
<td>3</td>
</tr>
<tr>
<td>Wireless access points</td>
<td>94</td>
</tr>
<tr>
<td>VoIP handsets/phones</td>
<td>718</td>
</tr>
<tr>
<td>Video conferencing systems</td>
<td>7</td>
</tr>
<tr>
<td>VHF radio repeaters</td>
<td>4</td>
</tr>
</tbody>
</table>