California State University San Marcos

Division of Academic Affairs
Strategic Planning and Budget Cycle
Three-Year Rolling Budget/Hiring Plan for FYs 17/18, 18/19 and 19/20
Part I: Narrative, Sections A and B

Subdivision Unit: Instructional & Information Technology Services (IITS)

PART I: NARRATIVE

A. Planning Assumptions

1) **Common planning assumptions for all Academic Affairs subdivision units**
   a. No FTES growth at the university level for each of the next three years, relative to 2016-17.
   b. A funding model for colleges based on student demand projections.
   c. Unit plans should align with and support the Academic Affairs Strategic Plan Goals; namely:
      i. Develop an Academic Master Plan that focuses on programs relevant to our changing society and student demographics.
      ii. Employ pedagogies that are relevant to our changing society and student demographics.
      iii. Invigorate faculty and student research activities.
      iv. Cultivate global perspectives.
      v. Provide faculty and staff professional development.
      vi. Develop non-state funding sources.
      vii. Provide needed academic technology and library resources.
   d. Programs and units should remain focused on the future and take into account realistic enrollment growth projections and strategic priorities in the unit for the next three years.
   e. Program Review findings, if any, should be considered.
   f. Program proposals currently under review should be considered and reflected as appropriate if an implementation date is anticipated during the period of the three-year rolling plan.

2) **Begin here enumerating planning assumptions for the unit**
   a. **Future Focused Strategic Planning:** The last time IITS undertook a strategic planning process was in 2011. The campus will undertake another evaluation of the contribution that technology plays in supporting the teaching and learning mission of the university. Key trends to be evaluated include: Mobile-First, Personalization, Digitalization, Cloud, SaaS, and Machine-learning based support tools. These technologies and related forces are driving changes that will impact the daily lives of our faculty and staff, and more importantly, will impact the learning experience and expectations of CSUSM students arriving in the next few years. Through a deliberate course of campus engagement, technology assessment, and forward thinking, the goal is to build a new strategic vision that reaches to 2022.
   b. **Technology as a Key Component of Innovative Instruction:** Maintaining modern and active learning environments that engage the 21st century learner requires faculty and

IITS to collaborate. Together, faculty and staff will work to develop pedagogy and teaching/learning models that best take advantage of technology in ways that improve student engagement. Many of CSUSM's classrooms continue to use technology configurations that have been unchanged for many years. More active learning and advanced lecture technologies will provide the option to free faculty from being tethered to the lectern. Students will have access to learning materials anytime, anywhere, and from any device. Faculty demand for assistance in developing online learning tools will continue, fueled by an increasing number of cohort based and accelerated degree programs.

c. **Rebuilding the Technology Refresh Program:** The computer refresh program has been an important part of CSUSM's campus culture for almost twenty years. The suspension of this beloved program has been impactful to both IITS and the university faculty and staff. Given the loss of the technology loan financing, the lack of alternative funding has caused the suspension of the program for two fiscal years. Implementing a long term plan for a new Technology Refresh Program is required along with a realignment of campus expectations. Key elements of an updated program will include the continued standardization on a four-year refresh plan, baseline funding for General Fund faculty/staff, and incorporation of incentives that promote prudent technology replacement requests.

d. **Retention and Development of IT Staff:** IITS staff have strong technical skills sets in virtualization, data analytics, instructional design, and PeopleSoft. These skills are in high demand in the higher education employment market for technology positions in San Diego County. There is substantial risk of loss of key IITS employees as campus salaries lag behind other regional institutions. Over the past year, employees who have left to seek new opportunities highlight a problem where IITS has not been able to hire staff with skills sets equal to those who have left within the same salary range. Evolving roles for IITS staff will also bring about additional changes, as Software-as-a-Service, data visualization, and Cloud Computing will drive the university to either develop or hire additional technical staff with the talent to implement and manage these growing technologies. Moving beyond custom programming to implementation, integration, reporting, and information security as our primary roles, the overall IT mission for our technical staff is evolving. Aligned with these changes will be the continuing need to provide appropriate salary adjustments associated with changing skills sets, experience levels, and regional economic factors.

e. **Transparency in Fiscal Budgets & Chargebacks:** The challenge of the fiscal environment and the suspension of the refresh loans brought stark clarity to the department's dependence upon a combination of loans to fund IT infrastructure and the department's chargeback system to fund operations. Effectively breaking the core method by which IITS has functioned for many years, services, fiscal commitments, and staffing levels are now revealed to be beyond IITS' designated funding. Developing a new budget model, the department is providing both clarity and a detailed understanding of campus technology expenses. In rebuilding budgets from the ground up, the core objectives are to distribute resources and expenses in such a fashion that they are well-defined, aligned to the appropriate needs of the university, and meet specific operational objectives.

f. **Standardized & Continuous Operations:** Historically the department has operated with little in the way of formalized operational processes. While this works for smaller operations, the complexity and end-user dependencies drive the need to adopt more formal approaches. Technology expectations and dependencies of the faculty and students are also changing to the point where more formalized after-hours services, timely monitoring, and escalated response procedures are necessary. To this end, IITS is building new change control structures, incident response mechanisms, and outage notification procedures. As part of our effort to formally extend and expand our service to meet changing expectations, providing some form of off-hours coverage to support faculty and students will become the norm. The use of cloud hosted services will also support the department's goal of continuous operations through redundant hosting of key systems. Automated System Monitoring and Reporting will improve technology infrastructure operations oversight and public visibility of campus IT services.

g. **Continuing Mobile First Strategy:** Mobile access via an app or responsive website is becoming the default means of accessing information & services. Across the university, departments are looking at mobile apps and hosted services, often with an eye to their own relationships with students. The CSUSM Mobile App will serve as a common university-wide platform and a mobile strategy should be part of every conversation related to new campus systems and online services. Last May (2016), CSUSM launched the first phase of Campus App for Summer Orientation. In this early phase, there have been over 6,300 downloads. In December 2016, the Apps second phase opened up access to the Class Schedule, Exam Schedule, Grades, Class Search, Holds, and To Do List. In the Spring 2017 Semester, the App will have access to Degree Planner, Schedule Assistant, Enrollment Shopping Cart, and Add/Drop Classes (related to the Degree, Set, Go initiative). Based upon the data, the App is successfully building a campus mobile integration platform where students can engage in many campus functions within a few taps. Looking forward, the App will include the ability to schedule appointments, perform student check-ins at events, and provide data that may help provide insights that support graduation initiatives.

h. **Changing Role of the Data Center:** A shifting data center infrastructure, built upon cloud computing and the "as-a-service" model, will continue to see a shift away from on-campus hosted environments. The use of cloud and other hosted technologies will become the norm and create an even greater degree of hybrid infrastructure. In FY 16/17, CSUSM took its first step within Microsoft's Azure cloud, hosting six virtual servers and moving to hosted authentication with Microsoft's Azure Active Directory Premium. These initial efforts are part of a move to build a redundant model that will be transparent to the user community.

i. **Data Driven Decision Making:** The desire to make strategic, data driven decisions is either supported or hindered by data availability and the complexity of the reporting tools. Additionally, in a SaaS world, where data will not be stored on university systems and extraction methods may be difficult, the need to eliminate data islands and strive to make information more accessible is even more important. Many initiatives will require the consolidation and acquisition of dispersed campus data sources to provide new insights. A good example is the campus' Diversity Initiative, as the consolidation of data from multiple systems is a requirement of creating accurate baselines, tracking,

and progress reporting. Building upon our common data warehouse, CSUSM has invested in an Enterprise License for Tableau. Through this tool, CSUSM will be building the coherent, cohesive, and consistent data, the university needs in order to make informed data driven decisions that impact student success and help to guide the allocation of campus resources.

j. **Trusted Partner & Innovator:** In a changing environment driven by the consumerization of technology and cloud hosted services, the landscape and role of centralized IT is changing. To meet the evolving expectations and service roles, IITS is evolving as well to better position the department to not only support the technology we host, but also to help units looking for assistance with any type of project that has a technology component. Through a process of early engagement, IITS seeks to establish a stronger support presence in places where systems are currently not managed by IITS staff or hosted by an external party. As part of this strategy, IITS will engage with units and individuals from the idea stage through implementation and then transition the project to the appropriate operational support team. IITS is also piloting the use of dedicated IT staff to support specific unit functions. Currently the University Police and Parking Services are part of the first functional & technical partnership. In a changing world, IITS can, will, and is evolving to support technology in every corner of the university.

k. **System & Regulatory Compliance:** The CSU is committed to taking strong measures to protect the security and privacy of campus information assets, promoting the adoption of affordable learning materials, and deploying technologies that are equally accessible to all faculty, staff, and students. New policies from the CSU, as well as regulations from the state and federal governments, will require the campus to create new operational methods and purchase new technology solutions for compliance. Failure to do so may violate state or federal law, and will result in not only audit findings, but fines and costs associated with addressing or mitigating failures and breaches. These efforts will require both technology and personnel resources in order to adequately comply with the requirements.

B. **Goals by Fiscal Year**
  1) **FY 2017/18 Goals**

  a. *Future Focused Strategic Planning:*
      i. **Draft to Technology Strategic Plan for Campus Community Input –** During the Fall 2017 term, the preliminary draft Technology Strategic Plan will be shared with faculty, students, staff, administrators, and other constituencies for input, comments, and revisions. Revisions will be shared with the campus community.
      ii. **Finalize Technology Strategic Plan –** The final Technology Strategic Plan will be released between January 2018 and March 2018.
  b. *Technology as a Key Component of Innovative Instruction:*
      i. **Emerging Academic Technologies –** Working through the *Technology Policy Advisory Committee*, evaluate and fund faculty innovative technology ideas that could be used for instruction. Encourage and assist faculty members with innovative *ideas*.

    ii. **Faculty Center –** Continue support of the Faculty Center's efforts related to online learning by providing professional development to faculty for *QOLT* (Quality Online Learning and Teaching) training. Provide financial and other support to the Faculty Center.

    iii. **Classroom Technology –** Continue "Year 2" effort to enhance learning spaces with focus on flexibility and student engagement. Upgrade projection quality with new equipment, evaluated projection alternatives, provide larger/relocated screens, and add wireless projection connectivity that enables access from any device for faculty and students.

    iv. **CALM Initiative –** In FY 16/17 CALM exceeded $2 million dollars in projected textbook savings. CSUSM will continue efforts College Textbook Affordability Program and Open Educational Resources (AB 798) grant. Partnering with the Library, IITS will assist faculty in identifying OER resources that save students thousands of dollars on instructional materials.

  c. *Rebuilding the Technology Refresh Program:*

    i. **Approval of the new Technology Refresh Program -** Under the proposed program, general fund faculty and staff would be provided with a standard refresh computer allocation. Under the new four-year refresh schedule, individual users would be centrally funded $1,400 per computer in their year of refresh.

    ii. **Establish a Technology Bank –** Without equipment loans, the campus will need to establish a "Tech Bank" in order to fund computer equipment for units that pay for equipment purchases over four years.

  d. *Retention and Development of IT Staff:*

    i. **Retention of Staff –** Provide appropriate and sustainable salary adjustments required to retain highly skilled staff as it is difficult to recover from loss of key staff expertise.

    ii. **Work Space Improvements –** In FY 16/17, IITS partnered with PDC to repaint and improve the appearance of the Craven Hall second floor corridors in order to make the location a more desirable workspace. In FY 17/18, IITS will begin a multi year effort to address staff office deficiencies and other operational inefficiencies. Key projects will include the remodel and expansion of the TRC to provide more space for faculty and create four offices for IDS staff located within the TRC to facilitate assistance to faculty.

  e. *Transparency in Fiscal Budgets & Chargebacks:*

    i. **Establish Sustainable Funding for a new Technology Refresh Program** - Ensure that CSUSM's desktop, classroom, and other technology infrastructure are appropriately maintained, modern, and sustainably funded.

    ii. **Break the Dependency on Transfers & Chargebacks** - Breaking the dependency upon loans, chargebacks, and inter-department transfers, IITS will work over several years to reduce or eliminate the need for General Fund chargebacks.

    iii. **Complete Updated Chargeback Model -** IITS will complete the development of a new budget model that provides both clarity and a detailed understanding of unit expenses. Updated cost recovery models will be fully supportable by data, published on IITS websites for transparency, and tied back to staff, services, and resources.

  f. *Standardized & Continuous Operations:*

    i. **Extending the Lifespan of the Campus Phone System –** Support for the campus' Mitel Pointspan PBX phone system will end on March 31st 2018. Projected purchase and

install a Mitel MX-ONE PBX deployment to support the existing infrastructure and manage the "critical phones" such as elevator, Code Blue, 911 and other identified phones through this new system.

ii. **Standardize After-Hours Support** – Extending service to meet changing expectations of after-hours support. IITS will establish for both the Help Desk and Instructional Design Services, after-hours support on a regularly scheduled basis. With the Kellogg Library open 7x24 weekdays, IITS will partner with the Library to provide access to the Kellogg 2000 lab, equipment check out, and some basic technical assistance.

iii. **Develop a "Service Catalog"** - The service catalog will define service level expectations including how and when services are provided and any associated costs. IITS will initiate a catalog based upon the Educause and Gartner templates.

iv. **Develop a Service Status & Outage Page** – In FY 16/17, CSUSM established status.csusm.edu to provide limited reporting of the status of campus systems. IITS will extend service reporting to include most core campus technology services.

v. **Implement Tiered Alerting** – For critical systems and services, IITS will implement a monitoring and notification system based upon established service metrics. The system will have the ability to escalate the notification if the service impact continues.

vi. **Campus Website** - Improve campus website with segmented version for the faculty/staff and student audiences, increasing their ability to find relevant information.

vii. **File Storage** – Transition from Box to Microsoft "One Drive" file storage. This supports campus efforts towards being cost effective and making best use of limited funds.

g. *Continuing Mobile First Strategy:*

i. **Continue Campus App Development** – Extend Campus App functionality to support all commonly used PeopleSoft pages using the Grey Heller product.

ii. **Expand Grey Heller Pages to Browser** – Extend the Grey Heller pages developed for the Campus App to general usage from any browser or device.

iii. **Enable LMS Baseline Functionality** – Enable basic LMS access to Moodle for assignments, grades, and other key student functions.

iv. **Promote Student Engagement** - Engage with ASI and Student Life to develop strategies to use the app as a means to promote student engagement and increased access to campus services.

v. **Develop Test App Functionality for Scheduling/Attendance** - Engage with Academic Success Center, ASI, and Student Life to develop strategies to utilize the App as a means to promote student engagement, scheduling, and increased engagement with campus services and activities.

h. *Changing Role of the Data Center:*

i. **Cost of Operations** - Work to develop the "return on investment" for cloud-hosted servers and applications. Develop cloud procurement contract and security procedures to ensure adequate compliance with CSU policy and state laws.

ii. **Operationalize Deployment of Campus Systems in Cloud** – In FY 16/17 CSUSM deployed its first six VMs to Microsoft Azure. Fully deploy cloud failover and backup instances of user authentication, campus website, and LMS.

i. *Data Driven Decision Making:*

i. **Data Governance** – Partnering with IP&A, lead a campus effort to consolidate data silos (shared systems, data imports), establish data standards (accuracy, data

definitions, common coding/practices), and ensure data privacy (protecting information, authorized/appropriate uses, disclosure). Focused on current and historical data, build reporting structures under four domains: students (enrollment, academic, engagement, alumni), faculty/staff (headcount, costs, assignment), community (service learning, engagement, careers) and resources (financial, budgetary, space).

ii. **eAdvising**- Continue to actively support and promote the *Degree, Set, Go* initiative that is engaging students to use Degree Planner as a guide in progress to degree. Continue to work with faculty, staff advisors, and administrators to strengthen the value, accuracy, and utilization of students in the development of predictive models for course and section.

iii. **Business Intelligence (BI)** – With Tableau Enterprise purchased for use by the campus community, partner with IP&A to expand the initial deployment of Tableau Dashboards developers to all 30 seats. Seek funding and hire one additional developer to meet growing infrastructure of university data needs.

iv. **Data Warehouse** – Partner with IP&A and other units across campus to expand and extend the campus Data Warehouse as a coalesced source of student success information. Look to extend the DW to include other SaaS data sources and evaluate vendor solutions as appropriate.

j. *Trusted Partner & Innovator:*

i. **IITS Projects** – Continue efforts to operationalize an Innovations & IT Projects Office with skilled project advisors to provide technology recommendations and guide strategies that best optimize campus resources and minimize software purchase redundancies. Outline best practices in evaluating, purchasing, and implementing software applications. Identify infrastructure needs, integrations, and interdependencies. Inform the campus community of IITS project status and current software portfolio. Keep the campus informed of projects that are active, paused, or terminated, and the rationale behind it. Address situations where IITS resource demands exceed resource capabilities from both a staffing and financial perspective.

ii. **IITS Software Purchase and Rollout -** Create clear processes for the purchase and rollout of software applications, both for use by specific departments as well as University-wide applications. Ensure implementation timeline, stakeholders, custom development, maintenance, roles and responsibilities, security and privacy, data ownership , cost and other key aspects of software purchases/rollout are clearly understood and well defined.

iii. **Niche Software -** With the tremendous growth of cloud computing and the aggressive sales and marketing of software products that target very specific niche areas, develop best practices and a methodology for evaluating these products. Work closely with our campus constituents on how best to accommodate their needs while minimizing silos and security risk of campus-owned data.

k. *System & Regulatory Compliance:*

i. **Identity Management** - Revise our 18 year old user identity and account provisioning process in order to better serve the user community.

ii. **Password Change Portal** – Develop and implement a password change portal to improve user self-service ability and reduce reliance on reaching a human at the help desk.
iii. **Policy Development** – Complete the cloud procurement contract policy and implement the associated risk analysis model in order to meet CSU policy requirements.
iv. **HIPAA Risk Assessment** – Complete the HIPAA risk assessment with Student Health & Counseling Services.
v.   **PCI Compliance** – Continue to work towards ensuring that campus use of payment cards remains PCI compliant by refining the ongoing monitoring of payment card device and training the campus community.
vi. **Multi-Factor Authentication** – Implement multi-factor authentication in order to better secure access to campus resources.
vii. **Department Shares** - Work towards reducing the number of records containing protected information in order to reduce risk of exposure.
viii. **PeopleSoft CS 9.2 Upgrade/Split** – As part of a CSU system wide project, San Marcos will split our Campus Solutions and Human Resources PeopleSoft system with a projected Go Live of March 19, 2018.
ix. **PeopleSoft Common HR (CHRS)** - As part of a CSU system wide project, San Marcos will begin work toward the CSU Common HR system.

Subdivision Unit: Instructional & Information Technology Services (IITS)
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2) FY 2018/19 Goals
a. *Future Focused Strategic Planning:*
   i. **Implementation of Technology Strategic Plan –** Building upon the Technology Strategic Plan, develop a 3-Year Rolling plan that prioritizes the initiatives.
b. *Technology as a Key Component of Innovative Instruction:*
   i. **Classroom Technology** – Continue "Year 3" effort to enhance learning spaces with focus on flexibility, active learning, and student engagement.
   ii. **CALM Initiative** – Continue partnership with the Library, IITS to assist faculty in identifying OER resources.
c. *Rebuilding the Technology Refresh Program:*
   i. **Technology Refresh Program & Technology Bank** - Operationalizing the proposed program; stable funding established and equipment replacing returning to traditional schedule.
d. *Retention and Development of IT Staff:*
   i. **Retention of Staff** – Provide appropriate and sustainable salary adjustments required to retain highly skilled staff as it is difficult to recover from loss of expertise.
e. *Transparency in Fiscal Budgets & Chargebacks:*
   i. **Completed Budget Transition and Chargeback Model** – Updated cost recovery models and technology funding will be supportable by established metrics and resources.
f. *Standardized & Continuous Operations:*
   i. No items identified pending Strategic Plan.
g. *Continuing Mobile First Strategy:*
   i. No items identified pending Strategic Plan.
h. *Changing Role of the Data Center:*
   i. No items identified pending Strategic Plan.
i. *Data Driven Decision Making:*
   i. **Business Intelligence (BI)** – With Tableau Enterprise now widely used, assist units as needed to meet university data needs.
j. *Trusted Partner & Innovator:*
   i. No items identified pending Strategic Plan.
k. *System & Regulatory Compliance:*
   i. No items identified pending Strategic Plan.

3) FY 2019/20 Goals

a. *Future Focused Strategic Planning:*
   i. No items identified pending Strategic Plan.
b. *Technology as a Key Component of Innovative Instruction:*
   i. **Classroom Technology** – Continue "Year 4" effort to enhance learning spaces with focus on flexibility, active learning, and student engagement.
   ii. **CALM Initiative** – Continue partnership with the Library, IITS to assist faculty in identifying OER resources.
c. *Rebuilding the Technology Refresh Program:*
   i. No items identified pending Strategic Plan.
d. *Retention and Development of IT Staff:*
   i. **Retention of Staff** – Provide appropriate and sustainable salary adjustments required to retain highly skilled staff as it is difficult to recover from loss of expertise.
   ii. **Workspace Improvements** – IITS expands office presence on the 2nd floor of Craven Hall; assumes relocation of existing functions to proposed Extended Learning building.
e. *Transparency in Fiscal Budgets & Chargebacks:*
   i. No items identified pending Strategic Plan.
f. *Standardized & Continuous Operations:*
   i. No items identified pending Strategic Plan.
g. *Continuing Mobile First Strategy:*
   i. No items identified pending Strategic Plan.
h. *Changing Role of the Data Center:*
   i. No items identified pending Strategic Plan.
i. *Data Driven Decision Making:*
   i. No items identified pending Strategic Plan.
j. *Trusted Partner & Innovator:*
   i. No items identified pending Strategic Plan.
k. *System & Regulatory Compliance:*
   i. No items identified pending Strategic Plan.