

Riverside City College Technology Plan 2019-2024

TRC approved: 14 March 2019

RD&AS approved: 21 March 2019

EPOC first read: 4 April 2019

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1. Introduction:

The Riverside City College Technology Plan has been established in support of the college vision “to maintain its status as a premier learning institution nationally recognized for excellence in education, innovation and service.” Accordingly, in support of this vision and the college mission, the RCC Technology Plan outlines goals and objectives, technology standards, and prioritization guidelines that inform the college strategic planning process.

The RCC Technology Plan is maintained and updated by the Technology Resource Committee (TRC). The TRC is an advisory committee that reports to the Resource Development and Administrative Services (RDAS) Leadership Council. The TRC includes a faculty chair, staff co-chair and voting membership including faculty, staff, management and student government representatives in accordance with board policy and RCC operating procedures.

Technology is integral to the success of the college mission and should be held to a high standard at RCC. To accomplish this, the TRC will review the Technology Plan annually and update it regularly to meet the demands of educational excellence, innovation and service.

2. College Strategic Planning Goals:

1. Student Success

- 1.1 Increase student engagement, learning, and success by offering a comprehensive and flexible curriculum, including clear pathways for achieving certificates, degrees, and transfer-ready status.
- 1.2 Consistently use data to make decisions and to understand and support evolving student needs.

2. Student Access

- 2.1 Ensure that all students have equitable access to the college's programs, courses, and services.
- 2.2 Enhance integrated academic support.
- 2.3 Counsel and advise students to help them plan for and progress toward their individual educational objectives.

3. Institutional Effectiveness

- 3.1 Encourage efficiency, expand organization capacity, and inform conversations that promote access and efficiency.
- 3.2 Integrate research, assessment, and program review to enhance understanding of student learning.
- 3.3 Facilitate accountability, transparency, and evidence-based communication to improve student success and completion.

4. Resource and Learning Environment Development

- 4.1 Enhance financial sustainability by incorporating diverse funding from public and private sources, including grants and special events.
- 4.2 Encourage an environment in which students, faculty, and staff find satisfaction in their work and feel supported and valued.
- 4.3 Invest in technology, equipment, supplies, training, and infrastructure to support students, faculty, and staff.
- 4.4 Invest in the College's human resources to support faculty, staff, and students.

5. Community Engagement

- 5.1 Actively pursue partnerships with the community's academic organizations to foster communication and collaboration that increase student success and completion at all levels.
- 5.2 Work with local business and CTE advisory groups to ensure that the college's educational programs provide the necessary skills that lead to employment opportunities.
- 5.3 Offer programs and services that enrich the community.

3. Objectives:

In alignment with the Educational Master Plan and the college's strategic planning goals, the Technology Plan focuses on ensuring the college achieves the following objectives in serving students, faculty, staff, and administrators:

- Provide global access to information
- Meet educational and training needs
- Foster innovation, communication, and collaboration
- Improve the effectiveness of students' and employees' respective tasks
- Provide adequate funding for the maintenance of existing technology and for the purchase of emerging technologies

To fulfill the above objectives, the college must do the following:

A. Provide Global Access to Information

1. Ensure the college website and online portals for students, faculty, and staff provide easy access to information and college support services.
2. Implement systems and technology to streamline student-related processes aligned with admission, retention, progress, completion, and equity goals.
3. Use online technology to increase access to learning opportunities that foster student and faculty success on and off campus.
4. Maintain and update a comprehensive mass notification system for emergencies and mass communication.
5. Maintain and upgrade cloud-based services that function as an extension of the college's infrastructure to ensure service stability in case of outage.
6. Use social media to foster a sense of community on and off campus.
7. Provide security awareness training for all students, staff and faculty to ensure safe use of all technology resources.
8. Ensure that college provided technology resources are accessible to people with disabilities according to Section 508 of the Rehab Act of 1973 (RCCD Board Policy AP 6365).

B. Meet Educational and Training Needs

1. Maintain and upgrade systems and technology through Program Review and the replacement plan within this document to improve student access, success, and equity.
2. Implement systems and technology for the deployment of student success and support programs.
3. Provide comprehensive professional development opportunities for faculty and support staff to train in emerging and newly adopted technology.
4. Provide access to professional development opportunities related to innovation for faculty and staff development, such as conferences and workshops.
5. Maintain and update network infrastructure, campus internet, and wi-fi access technology regularly in a manner that improves student access, success, and equity.

C. Foster Innovation, Communication and Collaboration

1. Provide easy access to one-stop help desk for all technology and college support services.

2. Use technology to encourage timely communication and collaboration between faculty, staff, and departments.
3. Annually collect data and gather feedback from students, faculty, and staff in order to assess college technology and support services.

D. Improve the Effectiveness of Students' and Employees' Respective Tasks

1. Provide all necessary access for faculty and staff to software applications and technology (including necessary components of the Learning Management System) which improve learning and support college functions.
2. Implement procedures to promote best practices in information security for students, faculty, and staff.
3. Implement procedures for electronic records management that are secure and improve efficiency.
4. Administer a technology replacement plan for departments, offices, and classrooms.

E. Provide Adequate Funding Including Grants, for the Maintenance of Existing Technology and the Purchase of Emerging Technologies

1. Provide guidelines for prioritizing the college budgets for the replacement, repair, and upgrade of department, office, and classroom technology equipment through a Total Cost of Ownership (TCO) analysis.
2. Implement an inventory system and auditing procedure that regularly evaluates the value and status of campus technology and equipment.
3. Coordinate the college budget with grant funding that supports the purchase, repair, and upgrade of department and classroom technology equipment.
4. Manage the technology replacement plan and prioritization procedure.
5. Provide prioritization guidelines for funding for staff positions support campus technology services.
6. Provide prioritization guidelines for all grant-funded and/or grant-related technology purchases include a TCO analysis, including licensing, hardware, software, and systems management.
7. Ensure all grant-funded technology purchases are specifically designated and are not automatically covered by the replacement plan.

4. Technology Standards

The college is responsible for maintaining minimum standards of technology and equipment that support the educational master plan, adhere to accreditation guidelines, and meet the needs of students, faculty, staff, and administration in the following key areas:

- Classrooms
- Labs
- Large meeting rooms and auditoriums
- Study spaces
- Conference rooms
- Offices
- Individual computers and devices
- Instructional technology and equipment
- Service Areas (Printing, A&R, etc.)
- Network and Servers
- Communication Systems
- Safety and Information Security
- Backups and Disaster Recovery

The specific minimum standards for technology and equipment deployed to these areas of the college are contained in the Appendix of the Technology Plan. These standards should be reviewed annually by TSS staff and updated and revised when necessary. To align with the college educational master plan, these updates should be made in consultation with the TRC and under the direction of the RDAS leadership council.

A. Classrooms

Each classroom must contain:

- A telephone for emergency contact
- An instructor computer station with network and internet access capable of multi-media playback
- Audiovisual projection equipment
- Access to discipline specific teaching and training technology, software, and equipment

B. Labs

Each lab must contain:

- A telephone for emergency contact
- An instructor computer station with network and internet access capable of multi-media playback
- Audiovisual projection equipment
- A sufficient number of computers with network and internet access to meet student demand

- Access to discipline-specific teaching and training technology, software, and equipment in sufficient quantities that meet student demand
- Discipline-specific technology should meet industry standards for performance, safety and information security
- Access to printing as needed
- A lab aide and computer workstation as needed

C. Large Meeting Rooms and Auditoriums

Each large meeting room and auditorium must contain:

- A telephone for emergency contact
- Highspeed wireless and network access
- Multimedia, computer and device connectivity for HD projection and sound
- Video capture and streaming equipment support
- Commercial grade audiovisual projection equipment

D. Study Spaces¹

Each study space must contain:

- A telephone for emergency contact
- Access to a sufficient number of computers with network and internet access to meet student demand
- Access to standard software in sufficient quantities to meet student demand
- Access to printing as needed
- A lab aide and computer workstation as needed

E. Conference Rooms

Each conference room must contain:

- A telephone for emergency contact
- A computer station with network and internet access capable of multi-media playback
- Audiovisual display equipment

F. Faculty and Staff Offices

Each faculty and staff office must contain:

- A Voice Over IP telephone with voicemail
- A desktop or laptop computer with office software that includes network and internet access.

¹ Defined in this plan as an unsupervised lab- or workspace where students in any discipline or major can gather to study. Examples include study rooms in the library and elsewhere, “open” computer lab spaces not restricted to specific disciplines or departments, and other student study spaces not governed by other categories in this section.

- Office computer and software technology that conforms to the needs of the discipline in alignment with course content and supporting department job functions
- Convenient access to printing, duplicating, scanning, and faxing

G. Individual Computers and Devices

Each faculty and staff member should have access to standard technology provided by the college. Any advanced technology must be approved by the area dean or manager.

- Full-time faculty and staff are limited to one computer, laptop, or supported device if not otherwise provided in an individual office
- Part-time faculty, staff, or student employees should be provided shared access to a computer with a unique individual login

H. Advanced Technology and Equipment

Advanced technology such as department or discipline specific devices and equipment that exceed the minimum standards of the technology plan should conform to the following criteria:

- Dean and manager approval is required to purchase or replace advanced technology and equipment
- Technology and equipment should conform to the needs of the discipline and align with industry required course content
- New and emerging technology and equipment should enhance department job functions and improve accuracy and efficiency
- Adopted technology and equipment should meet industry standards for performance, safety and information security
- Technology or equipment not supported by college services should be maintained by qualified vendors and is the responsibility of department or discipline to finance, purchase, and replace

I. Services Areas

Service area technology must conform to the minimum standards for computers and equipment, be evaluated and renewed according to the replacement plan, and is supported by college staff according to the following guidelines:

- Dean and manager approval is required to purchase or replace advanced technology and equipment
- Technology and equipment should meet industry standards for performance, safety, information security and conform to the needs of the service area
- New and emerging technology and equipment should enhance department job functions and improve accuracy and efficiency
- Advanced technology or equipment not supported by college services should be maintained by qualified vendors and is the responsibility of the college to finance, purchase, and replace

J. Network and Wireless Access

The college should have a robust and reliable network infrastructure that connects all users throughout all campus buildings. The district must provide adequate hardware and personnel support to maintain the network on a regular basis.

- Provide secure enterprise speed connectivity to all wired connections campus wide.
- Provide comprehensive secure wireless access for all students, employees and authorized guests throughout all college locations.

K. Servers, Backups, and Disaster Recovery

The college, supported by the district, should provide secure and centralized network storage, backup and recovery services to meet the needs of the college departments.

- TSS will work with the district to develop a data archiving and retrieval process for emergency backup and recovery service for network storage.
- TSS will work with the district to develop a disaster recovery plan to restore access to critical information resources in case of a catastrophic outage.

L. Communication Systems

The college, supported by the district, should provide a reliable and secure communication system throughout the college. This includes:

- Department and office phones with voicemail
- Classroom, lab and service area phones
- Emergency phones with 911 access
- Emergency mass notification system
- Video conferencing

M. Safety and Information Security

The college should coordinate with the district to ensure the safety of faculty, staff and students by maintaining and upgrading building safety equipment, alarm systems, and emergency communications technology. In addition, the district must provide a secure network that includes an information security plan, policies, procedures, information security technology and end user security awareness training to help mitigate outages and attacks and protect data confidentiality, integrity and availability.

- Safety equipment, emergency communication systems and alarms must be tested, evaluated and repaired regularly
- College faculty and support staff should serve on district technology and safety and security committees to increase communication and address local needs
- District and local support services should implement network management tools to monitor and control all critical network resources and develop an incident response team and procedures for network outages and attacks.

N. Website

The college has selected the firm iFactory to design its new website so that it can function as an engagement tool for a wide range of prospective students, their parents, the community, and potential donors; explain the programs and pathways offered for each constituency in a way that makes sense to them; focus more on marketing the organization (i.e., telling RCC's story, showcasing the college's outcomes, highlighting the entry points of educational paths that ultimately lead to success); empower internal stakeholders to take ownership of content and to value the website as a useful communication tool; and create an exciting, compelling, and unified site experience that balances professionalism with authenticity and has the ability to scale up. As well, the college approved a webmaster position that is expected to be filled in the coming months, and it will be hiring a new website content consultant to work with departments and service units across the college to refine their site content prior to website launch, which is scheduled for December 2019.

5. Replacement Plan

To fulfill the Technology Plan and support the RCC mission statement, the college should repair and replace classroom, lab, study space, office, conference room and department computers, technology and equipment regularly. The strategic planning process should provide an annual budget and create a prioritization plan that addresses campus needs equitably. The replacement plan is meant to service and maintain but not increase existing department inventory without prior approval. (See APPENDIX for specific technology standards.)

A. Computers and Devices

Current computer and device replacement/life-cycle guidelines are as follows:

- Software: Renew and update annually
- Devices: Replace within 3 years
- Computers: Replace within 5 years
- Advanced Computers: Update, repair or replace within 7 years
- Refurbish and redeploy computers when possible to less demanding locations

B. Network and Audiovisual Equipment

Current network and audiovisual replacement/life-cycle guidelines are as follows:

- Audiovisual and multimedia: Update, repair, or replace within 10 years
- Network devices: Update, repair, or replace within 10 years
- Wiring and physical infrastructure: Update, repair, or replace within 15 years

C. Technology and Equipment

Current technology and equipment replacement/life-cycle guidelines are as follows:

- Non-computer technology: Update, repair or replace within 10 years
- Equipment: Evaluate, repair or replace within 15 years
- Refurbish, repair and redeploy valuable equipment when possible

6. Technology Support Services

The Technology Support Services (TSS) department is a support division of the Office of Business Services at Riverside City College. RCC Technology Support Services provides instructional media support and information technology end-user support to Riverside City College and Riverside Community College District Offices. There are two distinct support service departments within TSS: Information Technology (IT) and Instructional Media (IM). The roles and duties are defined below.

A. Information Technology

The RCC TSS Information Technology (IT) department is responsible for the planning, acquisition, installation, management, and decommission of end-user IT hardware and software technologies along all stages of the technology lifecycle at Riverside City College and Riverside Community College District Offices. Hardware and software technologies supported by RCC TSS IT include, but are not limited to the following:

- Computers, workstations, servers, laptops, tablets, monitors, printers, scanners, digitizers, I/O devices, peripherals
- Windows OS, macOS, Unix/Linux distros
- MS-Office applications
- Adobe CC applications
- Administrative, department, and discipline applications
- Persistence protection services
- Image and deployment management
- Mobile device management

B. Instructional Media

The RCC TSS Instructional Media (IM) department is specifically assigned to classroom technology support, meeting rooms, and conference rooms which utilize the use of Instructional Media technology. Classroom technology support includes projectors, document cameras, classroom sound systems, control panels, video and audio playback, and classroom lecture capture. Conference rooms include video conferencing systems, audio, and computer presentation technology. In addition, IM supports the District Office and all VIP events which occur off campus. Rubidoux Annex also receives full support from both IT and IM. In sum, IM is responsible for the following:

- Design support for new building projects
- Redesign and renovation of existing spaces according to the replacement plan
- Design of new classroom technology needed for new academic programs
- Setup of sound systems and video systems, including video recording for all college events requesting this service, including VIP events
- Training for popular desktop programs, trainings are held in our Convergence Center

- Installation of all media systems which have been designed and quoted by Instructional Media. IM will coordinate the installation of electrical power with facilities and network requirements with the District.
- In-house repairs for all media equipment, including cable fabrication and repair.
- Full video production services in studio or in the field
- Programming services on RCC's Educational Broadcast Channel KRCC aired on Charter and ATT U-Verse.

C. Staffing and Budget Standards

To ensure the college Technology Support Services and Instructional Media departments can sufficiently support and manage the technology deployed across the campus, the college must provide adequate funding and staffing guidelines.

- Establish and maintain a clear and reasonable device-to-technician support technician staffing ratio based on industry standard metrics
- Provide adequate funding for technology resource tools (equipment, hardware, software, etc.) used by support technicians to deploy, manage and repair technology on campus.

7. Planning and Assessment

To ensure continuous quality improvement in the use of technology by the college, this plan offers two assessment targets. The first focuses on the plan's development, approval, and implementation, the assessment of which will ensure that the plan's content remains relevant and up-to-date and will refine as well as the process of adopting strategic and operational plans across the college. The second assessment target is the college's prioritization, acquisition, and usage of technology, which will ensure that the college adheres to defined processes when making technology-related decisions, that technology resource purchases are fiscally responsible, and that technology resources help all constituents fulfill the college's mission and strategic goals.

A. Assessment and Evaluation of the Technology Plan Itself

During the Technology Resources Committee's annual review of the Technology Plan itself in spring of each academic year, the TRC will complete the following tasks:

- Review and align/realign the plan with the college's strategic goals and the Educational Master Plan.
- Review prioritized initiatives from division Program Review and Plan (PRaP) documents and consider potential revisions to division, department, and discipline goals. The PRaP prioritization list should be provided to the TRC by the end of the fall term.
- Evaluate technology-related targets by division and their related financial impacts, if any.
- Consider new developments and changes at the state level that may affect technology requirements at RCC.
- Archive (and remove) completed or outdated components of the Technology Plan.
- Submit the final draft of the revised plan to RD&AS and then to EPOC for review and approval.
- Facilitate the approval of the revised plan for the next year by the end of the spring term.

Annual updates and revisions to the plan will allow the college to regularly provide small but meaningful adjustments to the college's prioritization, acquisition, and usage of technology, but such updates and revisions should not include major strategic shifts from year to year. Any larger changes should happen, if necessary, when the plan is evaluated and overhauled every three years.

B. Assessment and Evaluation of Technology Across the College

In order to assess the college's technology prioritization, acquisition, and usage, the college must do the following:

- Establish key performance indicators through the Office of Institutional Effectiveness for technology prioritization, acquisition, and usage; and evaluate the college's success in reaching those KPIs.
- Through the Program Review and Plan process, work to identify technology-related KPIs (likely connected to student learning and/or service unit outcomes) for instructional and support/service units across the college and assess their ability to improve student learning, provide student support services for all students (with particular attention paid to students disproportionately impacted groups), and provide support to the college's administrators, faculty, and staff.
- Revise and expand technology satisfaction surveys and process measures for all college constituents by the end of every spring term for implementation in the following fall

8. District Responsibilities

The Riverside Community College District (RCCD) provides hardware, software, network, information security and related technical support to the colleges within the district. The RCCD also maintains the District Strategic Technology Plan (DSTP) and Security Plan and coordinates and communicates with the colleges through various technology committees. The district also provides financial support through various funding sources to accomplish district wide initiatives such as the upgrade, replacement and maintenance of communications technology, network infrastructure hardware, and information security and safety systems.

A. Information Technology Strategy Council (ITSC)

The ITSC provides a collaborative forum that advises and informs the Chancellor's Executive Cabinet and the District Strategic Planning Committee in setting priorities and making strategic decisions involving the provision of information services and technology to advance the institutional goals of the district and its three colleges. Council members include technology representatives from each college.

B. Hardware and Network Infrastructure

The district monitors, maintains, upgrades and provides the necessary hardware and technical support to provide a stable and reliable network infrastructure. These responsibilities include the following:

- District internet connection
- Maintain Local Area Network (LAN) cabling, routing and switching infrastructure at enterprise speeds
- Secure Wide Area Network (WAN) / Wireless coverage campus wide
- Network file servers that support campus departments and services
- Remote access private VPN access
- Technology tracking system technology-based hardware and software
- Provide district internal funding, resource grants and bond initiatives

C. Software Enterprise Applications

The district provides user access and enterprise applications that support critical college and district functions including the following:

- User groups and network credentials including email and Office 365 accounts for students, faculty and staff
- Enterprise Resource Planning (ERP) system including Colleague/WebAdvisor
- Financial and accounting software applications such as Galaxy
- Website access and district-wide single sign-on portals for shared applications
- Mobile technologies that expand user access and facilitate communication
- Academic software including state approved applications such as Canvas, Microsoft 365 and Adobe Systems

D. Safety, Information Security and Disaster Recovery

The district provides the necessary security and disaster recovery support for critical college and district functions including the following:

- Emergency mass notification system

- Ensure that network and storage systems meet necessary information security standards
- Establish best practices and uphold industry data security standards that protect critical data
- Provide a stable and redundant network and communications infrastructure for operational continuity in case of emergency or disaster
- Maintain safety, information security, emergency preparedness and incident response plans that coordinate resources and support between the colleges and the district

9. Action Plan

In an effort to successfully implement the RCC Technology Plan and to advise the strategic planning process, each academic year the TRC will write a brief summary proposal of critical action items that should be addressed by the administration, strategic councils and the district.

2018-2019 Action Plan Proposal

1. Complete and adopt revisions to the RCC Technology Plan
Assigned Task: TRC & RDAS, then approval by EPOC
2. Computer technology inventory and audit
Assigned Task: Business Services & TSS
3. Provide a dedicated budget to fund annual replacement plan
Assigned Task: RDAS, Financial Resources Committee, & Business Services
4. Improve Helpdesk, website, portals and online tools
Assigned Task: District, TSS, & Business Services
5. Review annual computer replacement plan and create a rubric for prioritization decisions.
Assigned Task: TRC, TSS & Business Services

10. Appendices

A. Computer Hardware and Software Standards

RCC's computer hardware standards provide a baseline for which new computers are purchased. This baseline takes into consideration price, performance, purpose, and a useful lifespan of 5 years. Wherever possible only enterprise-grade equipment with a lower TCO (total cost of ownership) will be purchased over consumer-grade equipment. Existing RCC computers may not meet these standards. Computers that do not meet these standards will be assigned a replacement once the computer is 5 years old. Because computers are used for varying types of jobs and tasks throughout the college, there are three different standards have been created: "Multipurpose Computer," "Multimedia Computer," and "Engineering Workstation."

I. Multipurpose Computer

The specification for a "multipurpose computer" balances price and performance. A "multipurpose computer" will efficiently run most software applications and adequately fulfill the computing needs for most users throughout the college over the expected lifetime of the computer, which is 5 years.

Typical usage:

- Email
- Large Microsoft Office Documents
- Web development and design
- Application programming
- Medium graphics, photo, and video editing
- Access to Colleague WebUI
- Multiple Galaxy windows (Windows computers only)
- Single virtual machine
- Remote Access
- Multitasking

Example Multipurpose Computers:

PC Desktop \$1474

- Dell Optiplex 7050 Small Form Factor
- Intel i5 i5-7500 (QC/6MB/4T/3.4 GHz/65W
- Intel Integrated Graphics
- 16 GB
- 256 GB SSD Drive Sata
- 21" Monitor
- Speaker Bar

- 256GB SSD Drive SATA
- 15" Non-Touch HD (1366 x 768) LCD

Mac Desktop \$1874

- 21.5-inch iMac with Retina 4K display
- 3.0GHz quad-core Intel Core i5
- Radeon Pro 555 with 2GB
- 16 GB Memory
- 256 GB Flash Storage

PC Laptop \$1392

- Dell Latitude 5580
- Intel® Core™ i5-7440HQ (Quad Core, 2.8GHz up to 3.8GHz, 6M Cache, 35W vPro)
- Intel® HD Graphics
- 16GB DDR4 Memory

Mac Laptop \$1839

- 12-inch MacBook
- 1.3GHz Intel Dual-Core Core i5
- Intel HD Graphics 615
- 16 GB Memory
- 256 GB SSD Drive

II. **Multimedia Computer**

The specification for an “Multimedia Computer” prioritizes performance over price. A “Multimedia Computer” has a faster enterprise level CPU and SSD drive than a “Multipurpose Computer” and includes an add-on video card. A “Multimedia Computer” will handle most CPU- and graphics-intensive applications. Most college computer users will not need a “Multimedia Computer.” These computers should be reserved for technical disciplines and unique service areas.

Typical usage:

- Gigantic Microsoft Office Documents
- Heavy Graphics, photo, and video editing
- Multiple virtual machines
- Large CAD Modeling
- Medium 3D CAD Modeling

Example Multimedia Computers:

PC Desktop \$1968

- Dell Optiplex 7050 Small Form Factor
- Intel® Core™ i7-7700 (QC/8MB/8T/3.6 GHz/65W)
- AMD Radeon™ R7 450, 4GB GHz/65W
- 32 GB Memory
- 256 GB SSD Drive PCIe
- 21" Monitor
- Speaker Bar

- 16GB DDR4 Memory
- 256GB SSD Drive PCIe
- 15" Touch FHD (1920 x 1080) LCD

Mac Desktop \$2549

- 27-inch iMac with Retina 5K display
- 4.2GHz Quad-core Intel Core i7, Turbo Boost up to 4.5GHz
- Radeon Pro 575 with 4GB
- 16 GB Memory
- 512 GB Flash Storage

PC Laptop \$2035

- Dell Latitude 5580
- Intel® Core™ i7-7820HQ (Quad Core, 2.9GHz up to 3.9GHz, 8M Cache, 35W vPro)
- NVIDIA® GeForce 940MX 1020MHz 64 Bit for for i7-7820HV

Mac Laptop \$2269

- 13-inch MacBook Pro
- 2.5GHz Dual-core Intel Core i7
- Intel Iris Plus Graphics 640
- 16 GB Memory
- 256 GB SSD Drive

III. Engineering Workstation

The specification for an “Engineering Workstation” prioritizes performance of a specific task with no consideration towards cost. An “Engineering Workstation” has a workstation class CPU, faster and more memory, a faster and larger SSD drive, and a faster add-on video card with more memory, when compared to an “Multimedia Computer”. An “Engineering Workstation” is design to run highly intensive CPU and/or graphic tasks. “Engineering Workstations” will not be deployed to individual users and are meant to perform highly specific functions and shared tasks.

Typical usage:

- Gigantic CAD Modeling
- Gigantic 3D CAD Modeling
- Large HD video rendering
- Extremely complex computations

Example Engineering Workstations:

High End PC Desktop \$6885

- Precision 7920 Tower
- Intel Xeon Gold 5118 2.3GHz, 3.2GHz Turbo, 12C, 10.4GT/s 2UPI, 16M Cache, HT (105W)
- Dual NVIDIA® Quadro®P1000, 4GB
- 48GB Memory
- 512 GB SSD Drive PCIe
- Dell UltraSharp 34 Curved Ultrawide Monitor

High End PC Laptop \$3338

- Precision 7520
- Intel Core i7-7920HQ (Quad Core 3.10 GHz, 4.10GHz Turbo, 8MB 45W,)
- NVIDIA Quadro M2200 w/4GB GDDR5
- 32GB Memory

- 256GB SSD Drive PCIe
- 15.6" UltraSharp™ UHD IGZO(3840x2160) LCD

High End Mac Desktop \$6297

- Mac Pro
- 3.0GHz 8-Core Intel Xeon E5 with 25MB L3 cache, Turbo Boost up to 3.9GHz
- Dual AMD FirePro D700 with 6GB
- 32 GB Memory
- 512 GB Flash Storage
- 27" LG UltraFine 5K Display

High End Mac Laptop \$2715

- 13-inch MacBook Pro
- 3.5GHz Dual-core Intel Core i7
- Intel Iris Plus Graphics 650
- 16 GB Memory
- 512 GB SSD Drive

IV. Computer Software Standards

RCC's computer software standards are meant to provide a universal baseline for the software that is deployed with new computers. There are many departments within the college, each with unique academic and administrative software requirements. Those unique software requirements are not listed within the college standard.

Standard PC Software

Operating System: Two latest supported versions of Microsoft Windows
Software

- Microsoft Office
- Chrome
- Edge
- Sophos Antivirus
- Adobe Acrobat Reader
- VLC Media Player

Standard Mac Software

Operating System: Two latest supported versions of macOS
Software

- Microsoft Office
- Safari
- Chrome
- Sophos Antivirus
- Adobe Acrobat Reader

B. Mobile Device Standards

RCC's mobile device standard will provide a baseline for the purchasing and support related to mobile devices that utilize RCC's infrastructure, once a Mobile Device Management system is implemented.

RCC considers mobile devices to be smart phones, tablets, or other types of highly mobile devices. Laptops are specifically excluded from the scope due to significant differences in security control options. There are two general types of mobile device categories that will impact the applicability of the standard: college-owned and BYOD (Bring Your Own Device) personal devices.

Users include any person using a mobile device that will connect to and make use of the college's network infrastructure. This includes, but is not limited to, employees, faculty members, students, contractors, consultants, and approved guests.

Users of BYOD devices are responsible for the acquisition and administration of the devices they utilize.

Users of college owned devices are responsible for the acquisition and administration of the devices that they utilize.

The college's IT department is currently testing a system to manage Apple iOS devices for college-owned mobile devices. Once the technology is procured and implemented (no earlier than the 2019-2020 academic year), the college will standardize on a single mobile device platform. At that time, the college's IT department will take on the administration of the college's mobile devices.

C. Instructional Technology Standards

RCC's instructional technology standards are meant to provide a baseline for the design and purchase of technology in academic spaces. This baseline takes in to consideration price, functionality, purpose, and a useful lifespan of 10 years. Existing labs and classrooms may not meet these standards.

Labs and classrooms that do not meet these standards will be marked for replacement once the equipment is 10 years old. Due to the fact that labs and classrooms are used for varying types of instruction throughout the college, three different standards have been created. The standards are "Essential", "Advanced", and "Innovative".

I. Essential Lab or Classroom

The specification for an "Essential" lab or classroom balances price and functionality. "Essential" labs and classrooms all have similar characteristics, which can be described as a basic lecture style learning area. "Essential" labs and classroom have no equipment, furnishings, or configuration that are particular to teaching any one discipline. An "Essential" lab or classroom configuration will efficiently facilitate instruction for most subject areas and meet the computing and AV needs for most instructors over the expected lifetime of the equipment.

Minimum standard:

- LCD Projector and Mounted Screen
- Common Display Input Ports
- Instructor Computer with Network Connection
- Mounted Speakers

Example configuration:

- Mounted Matte White Dalite Screen with screen sized appropriately for room size
- Ceiling mounted LCD projector with XGA resolution or higher and min. 3500 lumens; ceiling mount brand will be Chief
- Chief Drop ceiling mount
- 4 JBL Control 26 Ceiling speakers mounted in the tiles throughout the room (Quantity may need to be adjusted based on room size)
- Instructor computer
- Single duplex outlet at the LCD projector ceiling location. Mounted in drop ceiling plate
- Ethernet network line with RJ45 connector at projector location

II. Advanced Lab or Classroom

The specification for an “Advanced” lab or classroom prioritizes specialization of instruction over price. An “Advanced” lab or classroom builds on the equipment in the Essential Lab or Classroom provides and additional multimedia options for the instructor. Few labs or classrooms will need an “Advanced” configuration. Unique instructional requirements will determine if an “Advanced” lab or classroom configuration is required.

Minimum standard:

- HD LCD Projector and Mounted Screen
- HDMI and Common Display Input Ports
- Advanced User Computer with Network Connection
- Blue-ray/DVD/Doc Cam
- Mounted Speakers
- Touch Screen Support

Example configuration:

- Mounted Matte White Dalite Screen with screen sized appropriately for room size
- Ceiling mounted LCD projector with XGA resolution or higher and min. 3500 lumens; ceiling mount brand will be Chief
- Chief Drop ceiling mount
- 4 JBL Control 26 Ceiling speakers mounted in the tiles throughout the room (Quantity may need to be adjusted based on room size)
- Crown Audio Amplifier
- Extron audio mixer/DSP

- Faculty Workstation (Spectrum Instructor Media Console) with the following:
 - VGA and HDMI inputs
 - Extron Interface boxes for source components, and control as needed
 - Extron Scaler/switcher
 - Extron Network connection box
 - Extron Projector controller
 - Extron Speaker Volume Control
 - Appropriate cabling to connect scaler/switcher to projector
- Denon Bluray player
- Instructor computer
- Listen Technologies Assistive Listening Devices
- Closed Caption Decoder
- Vaddio Ceiling Mounted Document Camera w/desktop control
- Wireless Microphone(with both Lavalier and Handheld microphone)
- Sharp Interactive Touch Panel
- Single duplex outlet at the LCD projector ceiling location. Mounted in drop ceiling plate
- Ethernet network line with RJ45 connector at projector location
- 4 Ethernet connections at front of classroom for internet access.
- Furman Network PDU for AV equipment.

III. Innovative Lab or Classroom

The specification for an “Innovative” lab or classroom prioritizes the need for the latest instructional media technology with no consideration towards cost. The design will be based on courses taught in the “Innovative” labs or classrooms. An “Innovative” lab or classroom will include “Advanced Lab or Classroom” equipment in addition to technology to support interactive lectures and presentations. Each “Innovative” lab or classroom will be designed on a case-by-case basis. Few courses will require the need for an “Innovative” lab or classroom.

Minimum standard:

- HD LCD Projector and Mounted Screen
- HDMI and Common Display Input Ports
- Advanced User Computer with Network Connection
- Blue-ray/DVD/Doc Cam
- Mounted Speakers
- Touch Screen Support
- Camera / Live Streaming
- Wireless Screen Casting

Example configuration:

- An Extron room control touch panel along with control processor
- Up to three LCD Projectors with the highest resolution and optimum lumens

- Up to three Electronic Projection Screens
- Ceiling mount document camera
- Video Conferencing Technology
- Media Site for live streaming
- Custom Sound System to accommodate regular lectures, Video Conferencing, and Live Video Streaming
- Sharp Interactive Touch Panel
- The room will be designed with optional full instructor workstation room control and/or full lectern room control.
- HD cameras for videoconferencing and Streaming connected to a camera tracking system
- All Innovative Technology Space lighting fixtures should have 5600 degree Kelvin daylight elements (fluorescent with full dimmer control down to 20%)
- Room shade control option
- Assistive Listening Devices
- Closed Caption Decoder
- Ethernet network line with RJ45 connector at projector location
- 4 Ethernet connections at front of classroom for internet access.
- Furman Network PDU for AV equipment.