2021 - 2026

TECHNOLOGY MASTER PLAN

RIO HONDO COLLEGE

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Introduction and Executive Summary

Rio Hondo Community College District (College/ RHC) was established in 1960 as a political subdivision of the State of California. The college is a comprehensive, public, two-year institution offering educational services to residents of Whittier, Pico Rivera, Santa Fe Springs, La Puente, and surrounding areas. The college operates under a locally elected five-member Board of Trustees form of government, which establishes the policies and procedures by which the District operates.

Like all institutions of higher education, technology is an integral part of a student's education. From applying and registering to scheduling and grading, technology is a part of almost every process and activity in a student's education. With the growth of distance education – especially in the era of COVID – even much of a student's classroom time involves technology.

The College strives to maintain a high level of commitment to provide support of technology needs across instructional, administrative, and student services areas. The purpose of this Technology Plan is to establish technology guidelines that will help direct the College as we prepare for the future. This plan contains visions and recommendations for technological enrichment over the next five years.

The technology master plan outlined in the pages that follow is a collaborative activity of many people from within and across the Rio Hondo community. The plan leverages Rio Hondo's values and its integrated planning process to chart a technology path for the next half-decade with the goal of helping students achieve their dreams and aspirations.

Key Technology Issues and Trends

Educause has taken the Top 10 Information Technology issues and clustered them into three themes:

- Empowered Students
- Trusted Data
- 21st Century Educational and Business Strategies

The priorities of the college have been placed into these three clusters:

Empowered Students

Student Success: Information Technology Department serves as a trusted partner to drive and achieve student success initiatives and assist in strategically leveraging technology.

Student-Centered Institution: Understanding and advancing technology's role in optimizing the student experience - from applicants to alumni.

Trusted Data

Information Security Strategy: Developing a holistic, agile approach to information security to create a secure network, develop security standards and protocols, and reduce institutional exposure to information security threats.

Privacy: Safeguarding institutional constituents' privacy rights and maintaining accountability for protecting all types of restricted data.

Digital Integrations: Ensuring system interoperability, scalability, and extensibility, as well as data integrity, security, standards, and governance, across multiple applications and platforms.

Data Enabled Institution: Taking a service-based approach to data and analytics to reskill, retool, and reshape a culture to be adept at data enabled decision-making.

Data Management and Governance: Implementing effective institutional data governance practices and organizational structures.

21st Century Educational and Business Strategies

Sustainable Funding: Developing funding models that can maintain quality and accommodate both new needs and the growing use of IT services in an era of increasing budget constraints.

Integrative CIO: Repositioning or reinforcing the role of IT Leadership as an integral strategic partner of institutional leadership in supporting institutional missions.

Higher Education Affordability: Aligning IT organizations' priorities and resources with institutional priorities and resources to achieve a sustainable future.

Technology Planning Process and Technology Committees

Rio Hondo College has an integrated planning methodology that combines short-term, annual planning with long-term strategic planning. The planning cycle is a part of the college's shared governance process and turns Rio Hondo's mission, vision, and values into goals, objectives, and opportunities for action. On a ten-year cycle Rio Hondo updates its Educational Master Plan, and on a five year cycle the college updates its Facilities Master Plan and its Technology Master plan. The Educational Master Plan was last updated in 2020. The Facilities Master Plan and the Technology Master Plans are both being updated in 2021.

On an ongoing basis the college uses its master plans to guide its annual planning across more than one hundred programs. The interaction of its annual planning under the umbrella of its master plans and board priorities completes the wheel of planning at Rio Hondo College. These inter-relationships are expressed graphically in Figure 1.

Figure 1

All Rio Hondo planning ultimately expresses the college's Values, and these are outlined below:

Quality Teaching and Learning: Create a dynamic, student-centered learning environment that embraces equity-minded principles.

Student Access and Success: Provide a welcoming and inclusive environment that provides our community with the knowledge, wisdom, and skills that facilitate upward social and economic mobility.

Diversity, Equity, and Inclusion: Continue its commitment to advancing educational justice, equity, and opportunity.

Integrity and Fiscal Responsibility: Maintain a college engaged in ethical practices and responsible use of resources for the optimum benefit of its students, community, and staff.

The themes that form the core of the Technology Master Plan follow from the college's values and inform the strategies and goals outlined in the remainder of this document.

Strategic Goals, Values, and Technology

The development of the Technology Master Plan arises from work of the College's annual planning retreat, the Enterprise Systems Advisory Committee, which meets monthly to discuss technology matters, its annual Technology Committee meeting, which prioritizes technology funding allocations, and the cross-sectional technology forum conducted in September 2021 (see Acknowledgements). Together, several themes emerged that will guide the broad direction of technology planning and activity for the next five years.

These themes are:

1.) Infrastructure
2.) Systems Integration
3.) Efficiency Improvements
4.) Business Process Review

Putting these themes into the context of the college's values is shown in Figure 2.

College Values	Technology Theme
Quality Teaching and Learning: a dynamic, student-centered learning environment that embraces equity-minded principles	RHC will maintain a modern infrastructure to support student's aspirations.
Student Access and Success: a welcoming and inclusive environment that provides our community with the knowledge, wisdom, and skills that facilitate upward social and economic mobility	RHC will develop processes and systems to support the ongoing success of our students.
Diversity, Equity, and Inclusion: a commitment to advancing educational justice, equity, and opportunity	RHC will align its processes to support equity and opportunity.
Integrity and Fiscal Responsibility: a college engaged in ethical practices and responsible use of resources for the optimum benefit of its students, community, and staff	RHC will use technology to efficiently manage college assets and resources.

Figure 2

In the pages that follow, the four technology themes are joined with specific technology objectives to be achieved during this planning cycle. These specific objectives arose from RHC technology committee work and the college's technology forum. Together they create significant and sustained improvement in the technology options available to students, faculty, and staff.

Theme 1

Technology Theme 1 RHC will maintain a modern infrastructure to support the aspirations of its students.	
Objective	
1.1	Maintain technology infrastructure in accordance with Enterprise Systems Advisory Committee (ESAC) recommendations (Appendix 2). Remain current with evolving technology standards.
1.2	Maintain classroom audiovisual systems in accordance with ESAC recommendations (Appendix 2) and College audiovisual standards (Appendix 3).
1.3	Examine and expand the use of virtual computer labs for 24x7 student use.

Theme 2

Technology Theme 2 RHC will develop processes and systems to support the ongoing success of our students.	
Objective	
2.1	Update and modernize the College website.
2.2	Explore options to automate the certificate and degree awarding process using the Degree Works degree audit system.

Theme 3

Technology Theme 3 RHC will align its processes to support equity and opportunity.	
Objective	
3.1	Review, acquire, and implement a Customer Relationship Management (CRM) product for students to manage their academic career. This project includes: 1.) A case management tool for student education management. 2.) Implementing an "Early Alert" system to improve student success. 3.) Integrating College Scheduler with Degree Works. 4.) Implementing a student communication tracking system.
3.2	Integrate curriculum development with student outcomes and the RHC learning management system (Canvas).

Theme 4

Technology Theme 4 RHC will use technology to efficiently manage college assets and resources	
Objective	
4.1	Upgrade the College's Finance and HR systems as part of the LACOE BEST project.
4.2	Maintain security by adapting and following industry standards.
4.3	Examine course auto-scheduling tools that integrate with Banner and other RHC products.
4.4	Automate the intake and processing of transcripts (e-transcripts).
4.5	Upgrade and expand the college's digital signage.
4.6	Review RHC's business processes to improve efficiencies, reduce duplication, and achieve cross department/area integration.

Schedule

The table below shows estimated timelines for achieving the outlined objectives and creates a high-level plan for when the various projects will be implemented over the planning horizon.

Item	Description	21	Q3	Q4	22	Q2	Q3	Q4	23	Q2	Q3	Q4	24	Q2	Q3	Q4	25	Q2	Q3	Q4
1.1	Tech refresh																			
1.2	A/V refresh																			
1.3	Virtual labs				Ongoing															
2.1	Website upgrade																			
2.2	Auto degree awarding																			
3.1	CRM, etc.																			
3.2	Curr. / SLOs / Canvas																			
4.1	LACOE BEST																			
4.2	Security monitoring			Ongoing																
4.3	Auto-scheduling																			
4.4	E-transcripts																			
4.5	Digital signage																			
4.6	Business Process Anal.																			

Facilities Related Activities

Updating or building new facilities invariably creates technology issues and challenges, along with opportunities. New facilities need data cabling and wireless access points. They need to be integrated into the College's broader campus network. Internal switching is needed for devices to communicate within the facility and to the outside world, and new buildings require updated audiovisual systems.

In the recently adopted Facility Master Plan upgrades to existing facilities and the creation of new buildings are referenced. Included in the list of possible renovations or creation of new facilities are the following:

1.) Wray Theater Upgrade
2.) Academic Commons
3.) Nursing and Health Sciences Facilities Expansion
4.) Others

The facilities upgrades contemplated as part of the Facilities Master Plan will have a technology component. The details for each of these projects is unknown at this time, but technology will play an integral part of these facilities upgrades.

Response to COVID-19 Pandemic

In response to the COVID-19 closures and the decision to move majority of instruction online, the following steps have been adopted to ensure that student learning needs are met:

Updates to the Website and Communicating Information. The Web developer and Marketing Department ensure that website content is constantly updated to provide current and accurate information about college resources. A page was created to help students with transitioning to online learning and the new vaccine mandate requirements.

Repurposing and Acquiring New Technology. The College repurposed laptops that were in the classrooms to be used for technology equipment checkout to staff, faculty, and students. Webcams were also made available to faculty and staff. The College has purchased additional technology equipment to loan out to staff, faculty, and students and close equity gaps. Technology equipment included webcams, headsets, hotspots, laptops, and software licenses.

Online Instruction. The mode of instruction continues to use the Canvas to facilitate instruction online. Instruction, as well as other campus services, have made greater use of Confer Zoom, available through the California Community Colleges Chancellor's Office Tech Connect.

Online Services. In response to the COVID-19, majority of student services moved services online to continue to meet student needs. These include counseling and tutoring among others.

Student Use Software Licenses. Specific applications used for instruction were identified that students need a license to be able to complete coursework at home. Using Higher Education Emergency Relief Funds (HEERF) from the Federal Government, the college procured the necessary licenses to cover the number of students registered in the course sections.

Identifying and Assessing Future Technology Needs

As technology continues to develop, improve, and diversify in its application, staff are encouraged to request and implement technology tools in support of increased student success.

- Through annual planning processes, staff submit requests for technology in support of classroom instruction. Plans are reviewed and prioritized by the Fiscal Planning Council and the President's Cabinet.
- Staff are encouraged to request of the Director of Information Technology any innovative technology they may have seen in professional development presentations, conferences, or other avenues.
- Staff involved in the college's distance education program coordinate with the college's Technology Services staff to identify and implement emerging technologies to improve the delivery of online courses.

Disaster Recovery and Backup

The on-premises datacenter utilizes a natural gas generator and UPS (uninterrupted power supply) battery backup unit to allow uninterrupted and prolonged operation in the event of a power failure. Generator testing is performed on a regular basis by Facilities to ensure correct operation. Physical access to datacenter is restricted staff that have a need to ensure safety and security of hardware, software, and information. The Information Technology Department technology address on-site and off-site backup and disaster support of college systems.

Cyber Security

Regular patching is performed to ensure servers are not vulnerable. Patches are applied to virtual servers on a regular basis. In addition, third party application patches and upgrades are applied when available. Windows Update settings on end user computers are configured for automatic updates.

Despite technical implementations to prevent data breach and compromise, an end user is susceptible to social engineering attempts to gain access to user's credentials. Awareness campaigns are made through emails notifications. A warning banners has also been implemented that it is automatically placed on all emails that originate from an external source to visually cue end users that may receive an unexpected email purported from another District employee.

Appendix 1 - Acknowledgements

This plan is the result of the effort of many people in the Rio Hondo College community – faculty, administrators, and staff. The contributors to this plan provided their insights about technology usage at Rio Hondo College and their thoughts and ideas for advancing the use of technology for the College community.

Important participation in this process was provided by the following individuals:

Rio Hondo College Administration, Faculty, and Staff
Superintendent/President
Vice President – Academic Affairs
- Dean of Arts and Cultural Programs
- Dean of Behavioral and Social Sciences
- Dean of Business
- Dean of Career Technical Education
- Dean of Communications and Languages
- Dean of Health Science and Nursing
- Dean of Kinesiology, Dance, and Athletics
- Dean of Library
- Dean of Mathematics and Science
- Dean of Public Safety

Vice President – Student Services
- Director of Admissions & Records
- Dean of Counseling Services
- Director of EOPS/DSPS
- Director of Financial Aid

Vice President of Finance & Business
- Director of Facilities

Faculty Senate President and Faculty Representatives (4)
CSEA President and Representatives (4)
Director of Marketing
Dean of Institutional Research and Planning
Distance Education Committee Chairperson
Director of Information Technology Services

Appendix 2 – Technology Refresh Time Horizons

ESAC (Enterprise systems Advisory Council) recommends that the Director of Information Technology monitor the age and condition of all campus technologies with the intent to secure replacements based on the following timetables or in alignment with industry standards and manufacturer warranties.

Academic Servers – 5 to 7 years
Audio Visual Equipment – 5 to 7 years
Computers – 3 to 5 years
Computer Monitors – 7 to 10 years
Enterprise Servers – 5 to 7 years
Enterprise Storage – 5 to 7 years
Network equipment – 7 to 10 years

Any technology covered under Section 508, the Rehabilitation Act, or the ADA – should be replaced as needed or as soon as possible to comply with changing regulations.

The goal should be that no technology critical to either instruction or the business of running the College be more than 10 years old. To ensure the consistent, transparent, and continuous implementation of processes for technology equipment upgrades and replacements ESAC further recommends that IT staff produce an annual report listing the various technologies due to be replaced, based on the above criteria, in the coming year.

Appendix 3 – Audiovisual Standards

Audiovisual capabilities in each classroom will support the use of audio, video and computer-based media for group instruction, study and presentation.

Standard Classroom

Equipment Used:

A. Display:
   a. Epson laser projector
      i. minimum 4000 ANSI lumen
      ii. minimum WUXGA resolution
      iii. HDMI connection
      iv. wired networking.
   b. Projector ceiling mounted with a BMS security mount (Key#030)
   c. Screen: Draper or equivalent with a 16:10 aspect ratio. Screen size to be determined using AVIXA BDM standard

B. Audio:
   a. Speakers: Crestron Saros, ceiling mounted when able
      i. Appropriate amplifier(s)
   b. Microphones: Level to be controlled separately from program audio
      i. Wired gooseneck table microphone - Shure MX418 or equivalent
      ii. Optional wireless microphone – Shure GLX-D Advanced or better
   c. 3.5mm aux audio input (shared with VGA)
   d. 3.5mm Assisted Listening line level audio output (combined program and microphone audio)

C. Instructor Station:
   a. Spectrum Link Lectern or equivalent (space allowing) with:
      i. At least 10U rack space in a locking enclosure
      ii. Toe kick option instead of wheels
      iii. Side mounted shelf for document camera
      iv. Overbridge with cutouts for:
         1. Control panel
         2. Input panel
   b. Middle Atlantic BGR or equivalent locking rack if not enough space
   c. Input and control panels to be mounted on top of rack

D. Sources:
   a. OFE PC
   b. BYOD Laptop
   c. Sony Blu-ray player
   d. Elmo TT12 series document camera
   e. Optional Crestron AirMedia (with Wi-Fi dongle)

E. Signal matrixing and routing:
   a. Crestron DMPS3-4K series digital and analog video and audio system processor with inputs for:
      i. DisplayPort for an OFE PC
      ii. HDMI for a BYOD laptop
      iii. VGA with audio for a BYOD laptop

iv. HDMI for a Blu-ray player
v. HDMI for document camera
vi. Optional AirMedia input

b. PoE network switch to connect AV equipment and power the Control Panel

F. Optional Lecture Capture/Conferencing
   a. Camera focused on Instructor Station to be connected to OFE PC in rack via USB interface
   b. Microphones secondary output connected to OFE PC in rack via USB interface
   c. Document camera to be connected to OFE PC in rack via USB

G. Control panel: TSW series from Crestron. Interface to be labeled and include functions as required:
   a. Projector power toggle
   b. Volume control: level up/down/mute
   c. Microphone audio control (to be controlled separate from program audio) level up/down/mute
   d. Source selection: (to switch even with projector off)
   e. Rack PC
   f. HDMI
   g. VGA
   h. Blu-ray player
   i. Document camera
   j. Aux audio (3.5mm audio without switching video)
   k. Projector image mute (separate from audio)
   l. Program audio mute
   m. Controls for optional Lecture Capture/Conferencing
      i. PTZ camera controls
      ii. Presets for camera

H. AV connection panels:
   a. Instructor Station input panel, labeled (HDMI, VGA +3.5mm stereo audio, Female XLR microphone input, 3.5mm ALS output)

I. All equipment will be powered through a surge/power conditioner

Lab Classroom

Equipment Used:

A. Display:
   a. Epson laser projector
      i. minimum 4000 ANSI lumen
      ii. minimum WUXGA resolution
      iii. HDMI connection
      iv. wired networking.
   b. Projector ceiling mounted with a BMS security mount (Key#030)
   c. Screen: Draper or equivalent with a 16:10 aspect ratio. Screen size to be determined using AVIXA BDM standard

B. Audio:
   a. Speakers: Crestron Saros, ceiling mounted when able
      i. Appropriate amplifier(s)
   b. Microphones: Level to be controlled separately from program audio
      i. XLR microphone connection on Input Plate
   c. 3.5mm aux audio input (shared with VGA)

d. 3.5mm Assisted Listening line level audio output (combined program and microphone audio)

C. Instructor Station:
   a. Middle Atlantic TOR series or equivalent locking tilt out wall rack
   b. Middle Atlantic BGR or equivalent locking floor rack if wall rack is unable to fit
   c. Input and control panels to be mounted on countertop

D. Sources:
   a. Optional OFE PC
   b. BYOD Laptop
   c. Elmo TT12 series document camera
   d. Optional Crestron AirMedia (with Wi-Fi dongle)

E. Signal matrixing and routing:
   a. Crestron DMPS3-4K series digital and analog video and audio system processor with inputs for:
      i. DisplayPort for an OFE PC
      ii. HDMI for a BYOD laptop
      iii. VGA with audio for a BYOD laptop
      iv. HDMI for document camera
      v. Optional AirMedia input
   b. PoE network switch to connect AV equipment and power the Control Panel

F. Optional Lecture Capture/Conferencing
   a. Camera focused on Instructor Station to be connected to PC via USB interface
   b. Microphones secondary output connected to OFE PC in rack via USB interface
   c. Document camera to be connected to OFE PC in rack via USB

G. Control panel: TSW series from Crestron. Interface to be labeled and include functions as required:
   a. Projector power toggle
   b. Volume control: level up/down/mute
   c. Microphone audio control (to be controlled separate from program audio) level up/down/mute
   d. Source selection: (to switch even with projector off)
   e. Rack PC
   f. HDMI
   g. VGA
   h. Document camera
   i. Aux audio (3.5mm audio without switching video)
   j. Projector image mute (separate from audio)
   k. Program audio mute
   l. Controls for optional Lecture Capture/Conferencing
      i. PTZ camera controls
      ii. Presets for camera

H. AV connection panels:
   a. Instructor Station input panel, labeled (HDMI, VGA +3.5mm stereo audio, Female XLR microphone input, 3.5mm ALS output)

I. All equipment will be powered through a surge/power conditioner

Room Arrangement

A. Instructor Station at room front

B. Display
    a. Projection screen at room front
    b. Projector ceiling mounted with a security mount centered to screen
C. Speakers are ceiling mounted
D. Media sources and inputs
    a. Media sources to be located in the equipment rack located in the Instructor Station
        i. Dedicated OFE computer located in rack
        ii. DVD/Blu-ray player located in rack
        iii. Laptop/Doc cam connections (HDMI, VGA + audio) on input panel on top of Instructor Station
        iv. Microphone located at Instructor Station
E. ALS output located at input panel on top of Instructor Station
F. Audio and video signal matrixing/routing equipment to be located in the Instructor Station rack
G. Control Systems
    a. Touch panel will be mounted on top of the Instructor Station
    b. Control processing equipment to be located in the Instructor Station rack
H. Data network connections
    a. PoE Network Switch to be located in Instructor Station equipment rack
    b. Minimum two to be located at the Instructor Station location
    c. One to be located at the projector location

Appendix 3 – References

Educational Master Plan

Facilities Master Plan

Technology Master Plan 2014