Audio Video Equipment Standards

Information Tecnology Services and
University Planning, Design and Construction

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Exhibit 1 to
Appendix VIII

Classroom AV Equipment (Quantities determined by design)
capacity to 99 students

as of April 2024

	Item	Features and Performance requirements	Performance Product
Video Displays	Laser Video Projector w/ Mount or Large Display monitor (Front monitor may be substituted for projector depending on sightline).	With HDBaseT and HDMI inputs, and RS-232 control. Lensing and brightness determined by screen size and room light conditions. Ceiling mount to be compatible with the selected projector. Must have security features.	Sony VPL-FHZ model White projector, Chief RPA-020 Mount or approved equivalent, NEC E__8
	Commercial grade rear monitor	Monitor with RS-232 control and HDMI inputs to be viewed by system user from teaching station. Size determined by room size.	NEC E658, E758, E988
	Projection Screen and Switch Control	Screen size shall be determined by ceiling height mounting needs. Motorized or fixed preferred. Switch mounted on wall for screen control.	Draper, Da-Lite, or approved equivalent
	Annotation Tablet w/ 2 Pens and Desk Monitor Arm	Digital HD 21" preview monitor with ability to annotate. And Swiveling monitor arm to attach preview monitor to podium.	Qomo QIT 600 F3 HD Monitor Qomo QIT 600 F3 spare Pen Chief monitor arm K1W120B or approved equivalent
Control Equipment	Central Room Control	Extron 7" Touch Panel (Uconn ITS-AVT to provide GUI template)	Extron TLP Pro 725
	Master Controller	Extron IPCP Pro integrated Controller integrated with Extron Global Viewer Enterprise (Uconn ITS-AVT to provide code example and include files)	Extron IPCP Pro 250xi, 350xi, or 550xi
Video Switching / Processing Equipment	Scaling AV Switcher	AV switcher with 1 Displayport and 5 HDMI inputs, an HDMI output and a mirrored Extron DTP2 output, with audio level control.	Extron IN 1806 4K Presentation Switcher 60-1663-01
	USB Switcher	Four port USB switcher with emulation for annotation features	Extron SW4 USB or approved equivalent
Video Source equipment	Wireless content sharing	Wirelessly share content from Mac OS, Windows 10, iOS, Android operating systems.	SimplyNuc AirServer 2
	Document Camera	Desktop style with HDMI output	Epson ELPD21, QOMO or approved equivalent
	HDMI PC input	HDMI cable in rack to AV switcher input	
	USB-C Laptop input	USB-C to HDMI Signal converter and USB C power delivery	Extron USB C HD 101
	HDMI Laptop input	HDMI cable in rack to AV switcher input	
Audio Equipment	Audio Amplifier	Must meet impedance/wattage requirements for speakers	Extron, QSC, JBL or approved equivalent
	Ceiling Speakers	Must provide appropriate number of speakers for complete room coverage.	Extron FF 220T
	Wireless Microphones	Reciever - Must be 534 to 598 MHz range	Shure QLXD 124/85 H50
		Transmitter - Lavelier Belt pack	Shure WL185
		Batteries / Charger - Recharagable battery and table top charger	Batteries Shure SB-900A, Charger Shure SBC-200US
	Digital Media Processor	Discrete audio control of at minimum 6 inputs and four outputs, network connectivity.	Extron DMP 64 Plus C 60-1823-01 or Extron DMP 128 C P 60-1179-01
	Assistive Listening	Needs to have an ear piece and neck loop	Listen LT 800

Network	Networking switch	24 port 10/100/1000 Ethernet connectivity Power over Ethernet (PoE) and PoE pass-through	Cisco Catalyst C1000-24FP-4G-L PoE or approved equivalent
Teaching Station	Teaching station or credenza	Approved teaching station that can accomodate standard AV racks. Must meet all ADA requirements and a cable cubby or wire management.	AvIned or VFI Furniture or equivelant
	Uninterruptible power supply	1u rack mount UPS 1000 watts	Middle Atlantic S1000r
	Power Management Unit	Must have ethernet control and web interface	EXTRON IPL T PCS4 Power Controller
	Cable Cubby	With power outlet, HDMI Laptop cable, USB-C cable, ethernet cable, and a usb cable connected to usb switcher for annotion.	Extron 202 or approved equivalent
	Miscellaneous	All cables connectors and hardware necessary to install a complete working system	
	Wiremold	Over Floor Raceway	color: black
Recording and Streaming Equipment	Streaming/Recording Device	Ability to record source image, audio, and microphone at 1080p and also stream to Kaltura RTMP streaming service. Must be Extron controlled with the ability for users to distinguish ownership of the recordings via Extron touch panel.	Extron SMP 351 60-1324-01 and Kaltura Link License 79-2548-01
Room Signage	Room Schedule monitor	Display calendar feed for room from University digital signage services	Bluefin BSBI101HT-FN
Video Conference Equipment	University provided Computer	Micro form factor computer	Dell Optiplex 7000 Micro
	Microphones	Boundary layer ceiling microphone, crown desktop microphone	Clock Audio C 007W-RF, PCC170
	Camera	Cameras that have HDMI and USB outputs that can be used simultaneously. Cameras that can be powered via PoE or PoE+. Tracking ability when necessary.	AVer PTZ 310, AVer TR311
	USB Extenders	Extend USB from cameras to USB Switcher (As needed)	Extron USBA Pro Plenum Series Cables 15'-65', Tripplite USB B203-101-IND-ER

	Item	Features and Performance requirements	Performance Product
Exhibit 2 to Appendix VIII	**Collaborative Classroom AV Equipment (Quantities determined by design)**		
			as of April 2024

Collaborative Classroom AV Equipment (Quantities determined by design)

Exhibit 2 to Appendix VIII

as of April 2024

	Item	Features and Performance requirements	Performance Product
Video Displays	Commercial grade monitor(s)	Monitor with RS-232 control and HDMI inputs to be viewed by student colaboration groups (4-8 per table). Size determined by room size.	NEC E658, E758, E988
	Monitor Mount	Must meet ADA compliance.	Chief or approved equivalent
	Annotation Tablet w/ 2 Pens and Desk Monitor Arm	Digital HD 21" preview monitor with ability to annotate. And Swiveling monitor arm to attach preview monitor to podium.	Qomo QIT 600 F3 Tablet Qomo QIT 600 F3 Pen Chief monitor arm K1W120B or approved equivalent
Control Equipment	Central Room Control TouchPanel	7" Touch Panel for room control Power over ethernet for touch panel if required	Extron TLP Pro 725
	Master Controller	Extron IPCP Pro Integrated Controller integrated with Extron Global Viewer Enterprise (Uconn ITS-AVT to provide code example and include files)	Extron IPCP Pro 350 xi or 550xi
	Student Monitor Display Controllers	Push button interface with RS-232 outputs, PoE network connectivity, and remote managability.	Extron MLC Plus 200
Video Switching / Processing Equipment	Scaling AV Switcher	AV switcher with 1 Displayport and 5 HDMI inputs, an HDMI output and a mirrored Extron DTP2 output, with audio level control.	Extron IN 1806 4K Presentation Switcher 60-1663-01
	Digital Video Transmitter/Receiver	Long distance transmitter for sending HDMI, audio, and bidirectional RS-232 and IR signals up to 330 feet (100 meters) over a shielded CATx cable to enabled products. Extending HDMI with embedded multi-channel audio from HDMI-equipped devices and accepts analog stereo audio signals for simultaneous transmission over the same shielded twisted pair cable. It supports video signals at resolutions up to 4K. Compact enclosure size and remote power capability.	Extron DTP HDMI 330 TX , 60-1331-12 or approved equivalent
	DTP video DA	DTP Distribution amplifier to send video signal from AV switcher to each monitor	DTP HD DA4 4K 330 HDMI to Four Output DTP DA 330 feet (100 m) 60-1437-51
Video Source equipment	Wireless content sharing	Wirelessly share content from Mac OS, Windows 10, iOS, Android operating systems.	SimplyNuc AirServer 2
	Document Camera	Desktop style with HDMI output	Epson ELPD21, QOMO or approved equivalent
	HDMI PC input	HDMI cable in rack to AV switcher input	
	USB-C Laptop input	USB-C to HDMI Signal converter and USB C power delivery	Extron USB C HD 101
	HDMI Laptop input	HDMI cable in rack to AV switcher input	
	HDMI input plate	Located with MCP 108 and connected directly to supporting monitor	
Audio Equipment	Audio Amplifier	Must meet impedance/wattage requirements for speakers	Extron, QSC, JBL or approved equivalent
	Ceiling Speakers	Must provide appropriate number of speakers for complete room coverage.	Extron FF 220T
	Wireless Microphones	Reciever - Must be 534 to 598 MHz range	Shure QLXD 124/85 H50
		Transmitter - Lavelier Belt pack	Shure WL185
		Batteries / Charger - Rechargable battery and table top charger	Batteries Shure SB-900A, Charger Shure SBC-200US
	Assistive Listening	Needs to have an ear piece and neck loop	Listen LT 800

Network	Networking switch	24 port 10/100/1000 Ethernet connectivity (Purchased separately by dept) Power over Ethernet (PoE) and PoE pass-through	Cisco Catalyst C1000-24FP-4G-L PoE or approved equivalent
Teaching Station	Teaching station or credenza	Approved teaching station that can accomodate standard AV racks. Must meet all ADA requirements and a cable cubby or wire management.	AvIned or VFI Furniture or equivelant
	Uninterruptible power supply	1u rack mount UPS 1000 watts	Middle Atlantic S1000r
	Power Management Unit	Must have ethernet control and web interface	EXTRON IPL T PCS4 Power Controller
	Cable Cubby	With power outlet, HDMI Laptop cable, USB-C cable, ethernet cable, and a usb cable connected to usb switcher for annotion.	Extron 202 or approved equivalent
	Miscellaneous	All cables connectors and hardware necessary to install a complete working system	
	Wiremold	Over Floor Raceway	color: black
Recording and Streaming Equipment	Streaming/Recording Device	Ability to record source image, audio, and microphone at 1080p and also stream to Kaltura RTMP streaming service. Must be Extron controlled with the ability for users to distinguish ownership of the recordings via Extron touch panel.	Extron SMP 351 60-1324-01 and Kaltura Link License 79-2548-01
Room Signage	Room Schedule monitor	Display calendar feed for room from University digital signage services	Bluefin BSBI101HT-FN
Video Conference Equipment	University provided Computer	Micro form factor computer	Dell Optiplex 7000 Micro
	Microphones	Boundary layer ceiling microphone, crown desk microphone	Clock Audio C 007W-RF, PCC170
	Camera	Cameras that have HDMI and USB outputs that can be used simultaneously. Cameras that can be powered via PoE or PoE+. Tracking ability when necessary.	AVer PTZ 310, AVer TR311
	USB Extenders	Extend USB from cameras to USB Switcher (As needed)	Extron USBA Pro Plenum Series Cables 15'-65', Tripplite USB B203-101-IND-ER

Exhibit 3 to Appendix VIII		Lecture Hall and Auditoria AV Equipment (Quantities determined by design) capacity for 100 students and up	 as of April 2024	
	Item	**Features and Performance requirements**	**Performance Product**	
Video Display's	Commercial grade rear monitor	Monitor with RS-232 control and HDMI inputs to be viewed by system user from teaching station. Size determined by room size.	NEC E658, E758, E988	
	Commercial grade front reinforcement monitor(s)	Monitor with RS-232 control and HDMI. Quantity and size determined by room size.	NEC E658, E758, E988	
	Wall Mount	For Confidence and Reinforcement Monitors. Required for rooms that have a ceiling height of nine (9) feet or more. Must have 180 degree radius and security features.	Chief or approved equivalent	
	Ceiling Mount	For Confidence and Reinforcement Monitors. Required for rooms that have a ceiling height of nine (9) feet or more and ceiling material of lay-in accoustical tile. Must have Must have 180 degree radius and security features.	Chief or approved equivalent	
	Laser Video Projector w/ Mount	With HDMI input RS-232 control and HDBaseT Input. Lensing and brightness determined by screen size and room light conditions. Ceiling mount to be compatible with the for selected projector. Must have security features.	Sony VPL-FHZ-W projector Chief RPA-020 Mount or approved equivalent	
	Projection Screen and Switch Control	Screen size shall be determined by 9' ceiling height mounting needs. Motorized contrast grey preferred. Switch mounted on wall for screen control.	Draper, Da-Lite, or approved equivalent	
	Annotation Tablet w/ 2 Pens and Desk Monitor Arm	Digital HD 21" preview monitor with ability to annotate. And Swiveling monitor arm to attach preview monitor to podium.	Qomo QIT 600 F3 Tablet Qomo QIT 600 F3 Pen Chief monitor arm K1W120B or approved equivalent	
	Miscellaneous	All cables connectors and hardware necessary to install a complete working system		
Control Equipment	Central Room Control TouchPanel Power Connections	7" Touch Panel for room control Power over ethernet for touch panel if required Low voltage interface to integrate screen control with control system	Extron TLP Pro 725	
	Master Controller	Extron IPCP Pro Integrated Controller integrated with Extron Global Viewer Enterprise (Uconn ITS-AVT to provide code example and include files)	Extron IPCP Pro 550xi	
Video Switching / Processing Equipment	Scaling matrix switcher switcher.	Matrix Switcher with HDMI and DTP/HDBT outputs or Standard AV switcher with mirrored outputs, mic inputs, and minimum of six inputs	DTP CrossPoint 108 4k 60-1381-01 or IN 1806 60-1663-01	
	Digital Video Transmitter/Receiver	Long distance transmitter for sending HDMI, audio, and bidirectional RS-232 and IR signals up to 330 feet (100 meters) over a shielded CATx cable to enabled products. Extending HDMI with embedded multi-channel audio from HDMI-equipped devices and accepts analog stereo audio signals for simultaneous transmission over the same shielded twisted pair cable. It supports video signals at resolutions up to 4K. Compact enclosure size and remote power capability.	Extron DTP HDMI 330 TX , 60-1331-12 or approved equivalent	
	Digital Receiver	Long distance, digital twisted pair receiver that works with the transmitter to send HDMI, audio, and bidirectional RS-232 and IR signals up to 330 feet (100 meters) over a shielded CATx cable. Extended HDMI with embedded multi-channel audio from HDMI-equipped devices. Accepts analog stereo audio signals over the same shielded twisted pair cable. Supports video signals at resolutions up to 4K. Compact enclosure size and remote power capability for discreet placement in lecterns and behind flat-panel displays.	Extron DTP HDMI 330 RX, 60-1331-13 or approved equivalent	
	Video PIP Device (rooms with single displays)	Smeamless scaller for Picture in Picture	Extron DVS 605 60-1059-01	
Video Source equipment	Wireless content sharing	Wirelessly share content from Mac OS, Windows 10, iOS, Android operating systems.	SimplyNuc AirServer 2	
	Document Camera	Desktop style with HDMI output	Epson ELPD21, or approved equivalent	
	HDMI PC input	HDMI cable in rack to AV switcher input		
	USB-C Laptop input	USB-C to HDMI Signal converter and USB C power delivery	Extron USB C HD 101	
	HDMI Laptop input	HDMI cable in rack to AV switcher input		

Category	Item	Description	Model/Equivalent
	Miscellaneous	All cables connectors and hardware necessary to install a complete working system	
Audio Equipment	Ceiling Audio Amplifier	Must meet impedance/wattage requirements for speakers 70V	Extron, QSC, JBL or approved equivalent
	Program Audio Amplifier	Must meet impedance/wattage requirements for speakers 70V	Extron, QSC, JBL or approved equivalent
	Ceiling Speakers	Must provide appropriate number of speakers for complete room coverage.	Extron FF 220T
	Program Speakers	Stereo speakers, must provide appropriate number of speakers for complete room coverage.	Extron, JBL, or QSC or approved equivalent
	Wireless Microphones	Reciever - Must be 534 to 598 MHz range	Shure QLXD 124/85 H50
		Transmitter - Lavelier Belt pack	Shure WL185
		Batteries / Charger - Recharagable battery and table top charger	Batteries Shure SB-900A, Charger Shure SBC-200US
	Digital Media Processor	Discrete audio control of 6 inputs and four outputs, network connectivity.	Extron DMP 64 Plus C 60-1823-01
	Assistive Listening	Needs to have an ear piece and neck loop	Listen LT 800
Network	Networking switch	24 port 10/100/1000 Ethernet connectivity Power over Ethernet (PoE) and PoE pass-through	Cisco Catalyst C1000-24FP-4G-L PoE or approved equivalent
Teaching Station	Teaching station or credenza	Approved teaching station that can accomodate standard AV racks. Must meet all ADA requirements and a cable cubby or wire management.	AvIned or VFI Furniture or equivelant
	Uninterruptible power supply	1u rack mount UPS 1000 watts	Middle Atlantic S1000r
	Power Management Unit	Must have ethernet control and configuration software	EXTRON IPL T PCS4 Power Controller
	Cable Cubby	With power outlet, HDMI Laptop cable, USB-C cable, ethernet cable, and a usb cable connected to usb switcher for annotion.	Extron 202 or approved equivalent
	Miscellaneous	All cables connectors and hardware necessary to install a complete working system	
	Wiremold	Over Floor Raceway	color: black
Room Signage	Room Schedule monitor	Display calendar feed for room from University digital signage services	Bluefin BSBI101HT-FN
Video Conference Equipment	University provided Computer	Micro form factor computer	Dell Optiplex 7000 Micro
	Microphones	Boundary layer ceiling microphone, crown desk microphone	Clock Audio C 007W-RF, PCC170
	Camera	Cameras that have HDMI and USB outputs that can be used simultaneously. Cameras that can be powered via PoE or PoE+. Tracking ability when necessary.	AVer PTZ 310, AVer TR311
	USB Extenders	Extend USB from cameras to USB Switcher (As needed)	Extron USBA Pro Plenum Series Cables 15'-65', Tripplite USB B203-101-IND-ER

		Basic Conference Room Equipment (Quantities determined by design) capacity 24 people		
Exhibit 4 to Appendix VIII				as of April 2024
	Item	**Features and Performance requirements**		**Performance Product**
Video Displays	Monitor	Dell Interative Touch Display		Dell P8624QT, Dell P7524QT, Dell P6524QT
	Mount	Mount for Monitor		Chief LTM1U, XTLM1U
Video Source equipment	HDMI Laptop input	15 ft HDMI cable to monitor		
	Miscellaneous	All cables connectors and hardware necessary to install a complete working system		
Computer	Dell PC	Micro form factor computer		Dell Optiplex 7010 Micro
Room Signage	Room Schedule monitor	Display calendar feed for room from University digital signage services		Bluefin BSBI101HT-FN
Video Conference / Streaming and Recording Equipment	Video Conference System	All-in-one USB camera/microphone system with optional expansion microphone.		Logitech Meetup