

1 **Proposed Changes (minor changes from 2004 standards) for:**

2
3 **Classroom Technology Standards**
4 **Shoreline Community College**

5
6 **Definition**

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8 Classroom technology is the large group of man-made devices that enables and
9 facilitates the transfer of information and knowledge from usually one person, an
10 instructor, to a group of learners in local classrooms, and/or around the world. It includes
11 simple devices such as black/white boards, overhead projectors, VCRs, DVD/CD players,
12 television monitors, computers, data/video projectors,to complex satellite
13 systems, ITFS systems, and automated audiovisual/computing presentation/conferencing
14 systems.

15
16
17 **Lighting Standards**

18
19 General:

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21 Classrooms with exterior doors, windows and skylights shall have light darkening
22 window coverings which may be easily operated from floor level. If possible, avoid
23 placing skylights near the front of the classroom.

24
25 Rooms with dimmable lights:

26
27 No modification is necessary as the dimmer provides full control from ample ambient
28 light for note taking to appropriate degree of darkness for projection.

29
30 Rooms with fluorescent lights without dimmer control:

31
32 Lights shall be arranged in banks parallel to the white board in the front of the classroom.
33 Each bank of lights is controlled by one switch. This arrangement allows individual
34 banks of lights to be turned on or off separately. In larger rooms or lecture halls, adjacent
35 banks of lights can be grouped into lighting zones.

36
37 The first row of lighting fixture (in the front of the classroom) shall be about fifteen feet
38 from the front wall.

39
40 Boxed fluorescent lighting fixtures covering the full length of all white boards shall be
41 installed above all white boards.

42
43 Two master light switches shall be provided for each classroom. The first master switch
44 shall be located at the main entrance to the classroom. A second master switch shall be
45 located on the left sidewall (student's POV) near the front of the room. All slave switches

46 shall be located here as well. In smart classrooms, this second master switch shall be
47 located next to the AV equipment rack.

48

49 **Electrical Requirements (Minimum):**

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51 Dedicated 20 Amp AC circuit for equipment rack to be located in the left front corner
52 (student's POV) of a classroom.

53

54 An un-switched AC outlet for ceiling mounted data/video projector to be located about
55 fifteen feet from the front wall, on a line dividing the classroom into equal halves. This
56 outlet can be part of the 20 Amp circuit for equipment rack.

57

58 **Data/Video LAN Connectivity Requirements(Minimum):**

59

60 At least one permanently activated RJ45 jack in the left front corner (student's POV) for
61 instructor's computer.

62

63 One RJ45 next to the AC outlet for ceiling mounted projector for web based projector
64 control.

65

66 **Media/Computing Equipment Standards:**

67

68 Classrooms will be equipped at five levels: **Basic, Intermediate, and Smart Classrooms**
69 (with three distinct levels). Specifications are as follows:

70

71 **BC: Basic Classroom**

72

- 73 □ White boards: All available space in the front of the classroom shall be covered
74 with white board (s). The sidewalls, if possible, shall also be covered with white
75 boards of similar quality and appearance.

76

- 77 □ A standard wall mounted manual projection screen (70" X 70", matte white, e.g.
78 Da-Lite Model B)

79

- 79 □ An overhead projector on a cart or table, with at least the following features:

80

Built-in lamp changer

81

Minimum brightness of 2,500 lumens

82

(e.g. 3M Model 9080)

83

- 84 □ LAN and Internet Connectivity: One permanently activated data port (RJ45) on
85 the front wall (left corner) of the classroom.

86

- 87 □ A wall mounted television monitor (27" minimum) with an attached VCR/DVD.
88 The DVD player must be compatible with DVD (MPEG-2, Region 1), Video CD
89 (MPEG-1), DVD-R, DVD+R, DVD-RW, DVD+RW, CD, CD-R, CD-RW and
90 mp3.

91

92 □ ADA compliance: television monitor must have built-in closed caption decoder.

93

94 **IC: Intermediate Classroom**

95 □ White boards: All available space in the front of the classroom shall be covered
96 with white board (s). The sidewalls, if possible, shall also be covered with white
97 boards of similar quality and appearance.

98

99 □ A standard wall mounted manual projection screen (70" X 70", matte white, e.g.
100 Da-Lite Model B)

101

102 □ An overhead projector on a cart or table, with at least the following features:

103 Built-in lamp changer

104 Minimum brightness of 2,500 lumens

105 (e.g. 3M Model 9080)

106

107 □ LAN and Internet Connectivity: One permanently activated data port (RJ45) on
108 the front wall (left corner) of the classroom.

109

110 □ A wall mounted television monitor (27" minimum) with an attached VCR/DVD.
111 The DVD player must be compatible with DVD (MPEG-2, Region 1), Video CD
112 (MPEG-1), DVD-R, DVD+R, DVD-RW, DVD+RW, CD, CD-R, CD-RW and
113 mp3.

114

115 □ Ceiling mounted data/video projector of LCD or DLP design. Minimum
116 specification: brightness-1,500 lumens, native resolution-1024X768, contrast
117 ratio-300:1, RS-232 serial port or built in NIC.

118

119 □ Data/video input jacks shall be located in the front left corner (student's POV) of
120 the classroom.

121

122 □ ADA compliance: External closed caption decoder for the projector.

123

124 **SC-1: Smart Classroom Level -1**

125 □ White boards: All available space in the front of the classroom shall be covered
126 with white board (s). The sidewalls, if possible, shall also be covered with white
127 boards of similar quality and appearance.

128

129 □ A wall mounted or ceiling recessed motorized projection screen (70" X 70", matte
130 white.)

131

132 □ An overhead projector on a cart or table, with at least the following features:

133 Built-in lamp changer

134 Minimum brightness of 2,500 lumens

135 (e.g. 3M Model 9080)

136

- 137 □ LAN and Internet Connectivity: One permanently activated data port (RJ45) on
- 138 the front wall (left corner) of the classroom.
- 139
- 140 □ Ceiling mounted data/video projector of LCD or DLP design. Minimum
- 141 specification: brightness-2,000 lumens, native resolution-1024X768, contrast
- 142 ratio-400:1, RS-232 serial port or built in NIC.
- 143
- 144 □ ADA compliance: External closed caption decoder for the projector.
- 145
- 146 □ Video cassette player/recorder: VHS
- 147
- 148 □ DVD/CD player capable of playing DVD (MPEG-2, Region 1), Video CD
- 149 (MPEG-1), DVD-R, DVD+R, DVD-RW, DVD+RW, CD, CD-R, CD-RW and
- 150 mp3.
- 151
- 152 □ Audio system to include a Dolby Digital 5.1 AV receiver and wall or ceiling
- 153 mounted speakers.
- 154
- 155 □ Rack mountable PC with DVD player, special video card (e.g. ATI Radeon 8X
- 156 AGP) with hardware DVD decoder, audio card with stereo inputs/outputs, NIC,
- 157 USB 2.0 and IEEE 1394 Firewire, and software to include MS Office 2003, MS
- 158 Internet Explorer, Acrobat Reader, WinDVD or equivalent, Flash player, Real
- 159 player, MS Media player and Quicktime player..
- 160
- 161 □ Standard 19" equipment rack with security door for AV and computer equipment.
- 162 A/B switch for accommodating another computer, a work light, and input jacks
- 163 for external data, video and audio. A wireless keyboard/mouse (RF, with a
- 164 minimum range of 30 feet) shall be provided for this configuration.
- 165
- 166

167 **SC-2: Smart Classroom Level-2**

- 168 □ White boards: All available space in the front of the classroom shall be covered
- 169 with white board (s). The sidewalls, if possible, shall also be covered with white
- 170 boards of similar quality and appearance.
- 171
- 172 □ A medium size wall mounted or ceiling recessed motorized projection screen (84"
- 173 X 84", matte white)
- 174
- 175 □ An overhead projector on a cart or table, with at least the following features:
- 176 Built-in lamp changer
- 177 Minimum brightness of 2,500 lumens
- 178 (e.g. 3M Model 9080)
- 179
- 180 □ LAN and Internet Connectivity: Two (2) permanently activated data ports (RJ45)
- 181 on the front wall (left corner) of the classroom. One RJ45 near the ceiling
- 182 mounted projector.

- 183
- 184 □ Ceiling mounted data/video projector of LCD or DLP design. Minimum
- 185 specification: brightness-2,500 lumens, native resolution-1024X768, contrast
- 186 ratio-500:1, RS-232 serial port or built in NIC.
- 187
- 188 □ Video cassette player/recorder: VHS
- 189
- 190 □ DVD/CD player capable of playing DVD (MPEG-2, Region 1), Video CD
- 191 (MPEG-1), DVD-R, DVD+R, DVD-RW, DVD+RW, CD, CD-R, CD-RW and
- 192 mp3.
- 193
- 194 □ Audio system to include a Dolby Digital 5.1 AV receiver and wall or ceiling
- 195 mounted speakers.
- 196
- 197 □ Rack mountable PC with DVD player, special video card (e.g. ATI Radeon 8X
- 198 AGP) with hardware DVD decoder, audio card with stereo inputs/outputs, NIC,
- 199 USB 2.0 and IEEE 1394 Firewire, and software to include MS Office 2003, MS
- 200 Internet Explorer, Acrobat reader, WinDVD or equivalent, Flash player, Real
- 201 player, MS Media player and Quicktime player.
- 202
- 203 □ ADA compliance: closed caption decoder, hearing assist system (IR or RF).
- 204
- 205 □ Laser pointer
- 206
- 207 □ Teaching console with lockable cabinet for equipment and storage, A/B switch for
- 208 accommodating another computer, a work light, and input jacks for external data,
- 209 video and audio, OR
- 210 □ Standard 19" equipment rack with security door for AV and computer equipment.
- 211 A/B switch for accommodating another computer, a work light, and input jacks
- 212 for external data, video and audio. A wireless keyboard/mouse (RF, with a
- 213 minimum range of 30 feet) shall be provided for this configuration.
- 214
- 215 □ AMX touch panel AV control system
- 216

217 **SC-3: Smart Classroom Level-3**

- 218 □ White boards: All available space in the front of the classroom shall be covered
- 219 with white board (s). The sidewalls, if possible, shall also be covered with white
- 220 boards of similar quality and appearance.
- 221
- 222 □ A large wall mounted or ceiling recessed motorized projection screen (96" X 96",
- 223 matte white)
- 224
- 225 □ An overhead projector on a cart or table, with at least the following features:
- 226 Built-in lamp changer
- 227 Minimum brightness of 3,000 lumens
- 228 (e.g. 3M Model 9090)

- 229
- 230 □ LAN and Internet Connectivity: Two (2) permanently activated data ports (RJ45)
- 231 in the front wall (left corner) of the classroom. One RJ45 near the ceiling mounted
- 232 projector.
- 233
- 234 □ Ceiling mounted data/video projector of LCD or DLP design. Minimum
- 235 specification: brightness-3,000 lumens, native resolution-1024X768, contrast
- 236 ratio-800:1
- 237
- 238 □ Video cassette player/recorder: VHS and MiniDV
- 239
- 240 □ DVD/CD player capable of playing DVD (MPEG-2, Region 1), Video CD
- 241 (MPEG-1), DVD-R, DVD+R, DVD-RW, DVD+RW, CD, CD-R, CD-RW and
- 242 mp3.
- 243
- 244 □ Audio system to include a Dolby Digital 5.1 AV receiver with microphone inputs,
- 245 and wall or ceiling mounted speakers.
- 246
- 247 □ Rack mountable PC with DVD player, special video card (e.g. ATI Radeon 8X
- 248 AGP) with hardware DVD decoder, audio card with stereo inputs/outputs, NIC,
- 249 USB 2.0 and IEEE 1394 Firewire, wireless (RF) keyboard/mouse, and software to
- 250 include MS Office 2003, MS Internet Explorer, Acrobat reader, WinDVD or
- 251 equivalent, Flash player, Real player, MS Media player and Quicktime player.
- 252
- 253 □ ADA compliance: closed caption decoder, hearing assist system (IR or RF).
- 254
- 255 □ Laser pointer
- 256
- 257 □ Teaching console with lockable cabinet for equipment and storage, A/B switch for
- 258 accommodating another computer, a work light, and input jacks for external data,
- 259 video and audio, AND/OR
- 260
- 261 □ Standard 19" equipment rack with security door for AV and computer equipment.
- 262 A/B switch for accommodating another computer, a work light, and input jacks
- 263 for external data, video and audio.
- 264
- 265 □ AMX touch panel AV control system.
- 266
- 267 □ Document camera
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- 269 □ Wireless microphones: at least one handheld and one lapel
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