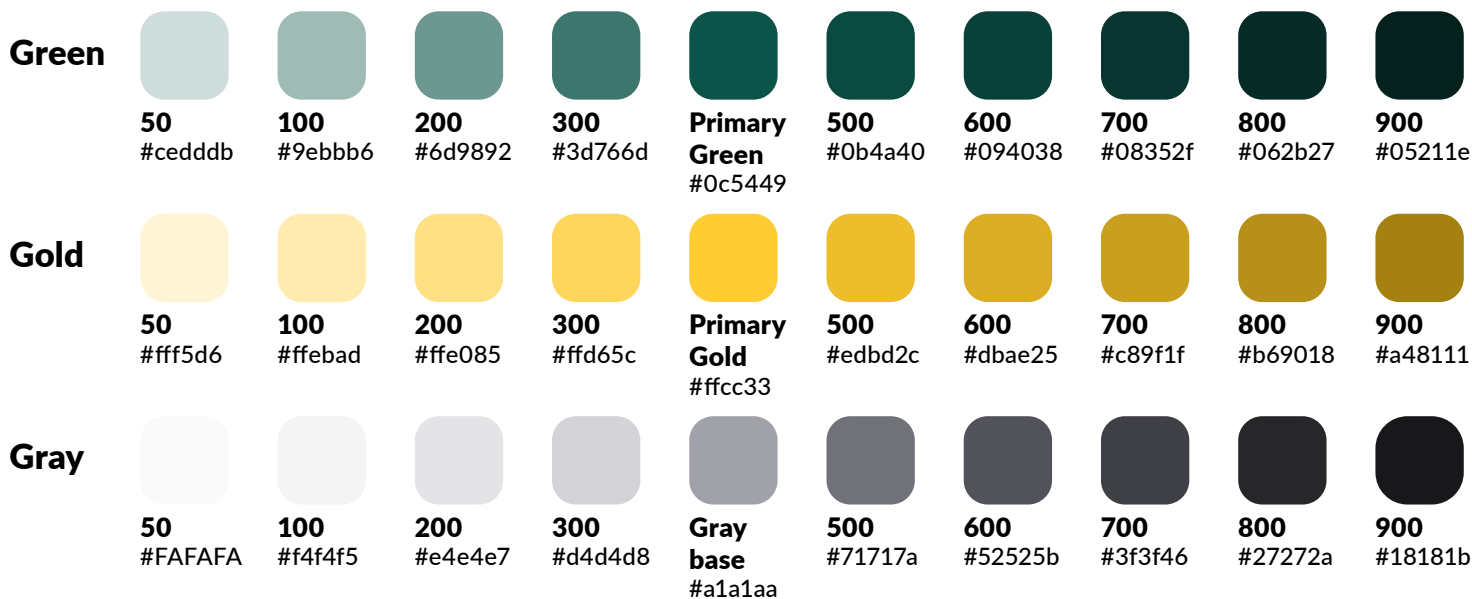# Designing for All:
Contrast, Color, and Universal Accessibility

Contrast and color use are essential prerequisites for accessibility in design. All users, including individuals with disabilities, must be able to perceive content, which encompasses typography and informational graphics. *Universal Design aims to provide accessible solutions that offer the same means of use for all users: identical whenever possible, and equivalent when not* (Cook & Hussey, 2002; The Center for Universal Design, University of North Carolina, 1997). The table below visually communicates good text contrast as defined by the Web Content Accessibility Guidelines (WCAG) 2.1. The WSU color branding text combinations shown in the table below ensure sufficient contrast between text and background, making it readable for individuals with moderately low vision. This contrast calculation ensures that even those with color vision deficits will have adequate differentiation between the text and the background. *Avoid using color as the sole means of conveying information or displaying an error message.* Instead, incorporate text or an icon as well. For further inquiries or additional information regarding accessibility in design, please contact us at medcom@med.wayne.edu or visit medcom.med.wayne.edu.

Green

50 #cedddb	100 #9ebbb6	200 #6d9892	300 #3d766d	Primary Green #0c5449	500 #0b4a40	600 #094038	700 #08352f	800 #062b27	900 #05211e

Gold

50 #fff5d6	100 #ffebad	200 #ffe085	300 #ffd65c	Primary Gold #ffcc33	500 #edbd2c	600 #dbae25	700 #c89f1f	800 #b69018	900 #a48111

Gray

50 #FAFAFA	100 #f4f4f5	200 #e4e4e7	300 #d4d4d8	Gray base #a1a1aa	500 #71717a	600 #52525b	700 #3f3f46	800 #27272a	900 #18181b

WSU primary green	WSU primary yellow	Base gray	White
White on WSU primary green • 8.8:1 good contrast	*Black on WSU primary yellow* • 13.6:1 very good contrast	*Black on base gray* • 8.2:1 good contrast	*Black on white* • 21:1 best contrast
WSU primary yellow on WSU primary green • 5.9:1 acceptable contrast	*WSU primary green on WSU primary yellow* • 5.9:1 acceptable contrast	*WSU primary green on lighter gray (300)* • 6:1 acceptable contrast	*WSU primary green on white* • 8.8:1 good contrast
Lightest green (50) on WSU primary green • 6.3:1 acceptable contrast	*Darker (600) green on WSU primary yellow* • 7.7:1 good contrast	*Dark green (600) on lighter gray (300)* • 7.9:1 good contrast	*Dark green (600) on white* • 11.7:1 very good contrast
Lightest green (50) on darker green (600) • 8.3:1 good contrast	*WSU primary green on lighter yellow (200)* • 6.8:1 acceptable contrast	*Darker gray (600) on lighter gray (200)* • 6.1:1 acceptable contrast	*Darker gray (700) on white* • 10.4:1 good contrast
Darker green (500) on lightest green (50) • 7.2:1 acceptable contrast	*WSU primary green on lightest yellow (50)* • 8.1:1 good contrast	*Darker gray (800) on lighter gray (300)* • 10.1:1 good contrast	*Medium green (300) on white* • 5.2:1 acceptable contrast

Color contrast ratio value range

21:1	11:1	8:1	7.1:1	4.5:1	4.5:1 and lower
BEST (highest contrast)	VERY GOOD	GOOD	ACCEPTABLE	MINIMUM	INACCESSIBLE RANGE