Installing and Using the Michigan Graph Scheme

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Introduction

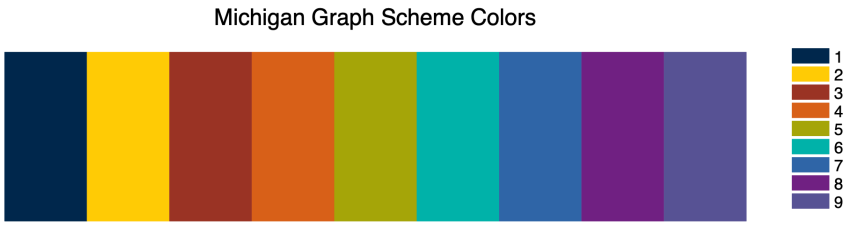

Figure 1: Colors in Michigan Graph Scheme

Stata provides the use of graph schemes that improve the overall look of graphs.

See `help scheme`.

The *Michigan graph scheme* makes use of official University of Michigan colors.

Installation

Use of the *Michigan graph scheme* depends on installation of the `lean2` graph scheme developed by Svend Juul.

Type `findit lean2` and click through on the install links to install `lean2`.

Then type `net from https://agrogan1.github.io/Stata` and click the links to install.

Example Data

We are going to use the famous "iris" data collected by Edgar Anderson.

```
. clear all
.
. use "iris.dta", clear
.
. summarize
```

Variable	Obs	Mean	Std. dev.	Min	Max
Sepal_Length	150	5.843333	.8280661	4.3	7.9
Sepal_Width	150	3.057333	.4358663	2	4.4
Petal_Length	150	3.758	1.765298	1	6.9
Petal_Width	150	1.199333	.7622377	.1	2.5
Species	150	2	.8192319	1	3

Histogram

```
. histogram Petal_Length, scheme(michigan)
(bin=12, start=1, width=.49166667)
```

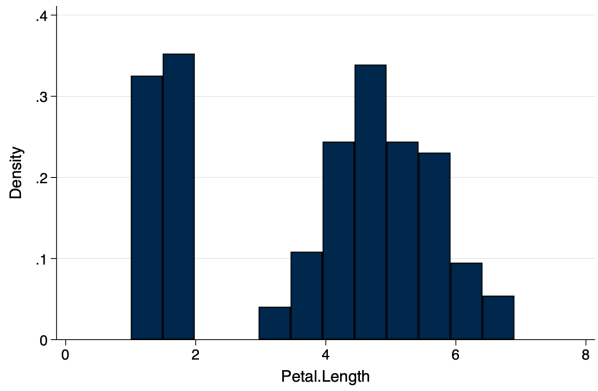

Figure 2: Histogram Using Michigan Scheme

Histogram With Transparency

```
. histogram Petal_Length, fcolor(%50) scheme(michigan)
(bin=12, start=1, width=.49166667)
```

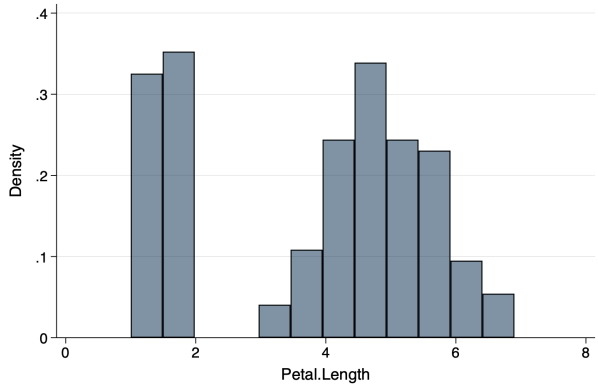

Figure 3: Histogram Using Michigan Scheme And Slightly Transparent Bars

Bar Graph

```
. graph bar Petal_Length, over(Species) scheme(michigan) asyvars
```

Bar Graph With Transparency

```
. graph bar Petal_Length, over(Species) intensity(70) scheme(michigan) asyvars
```

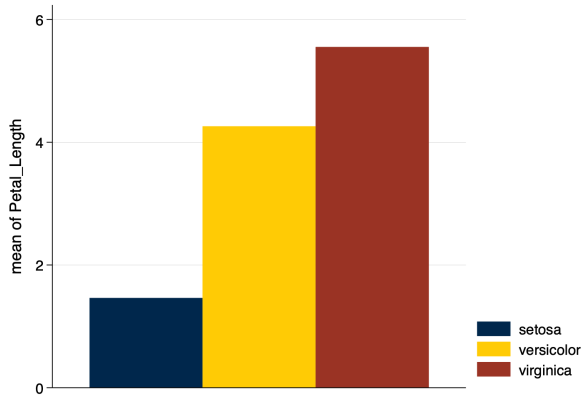

Figure 4: Bar Graph Using Michigan Scheme

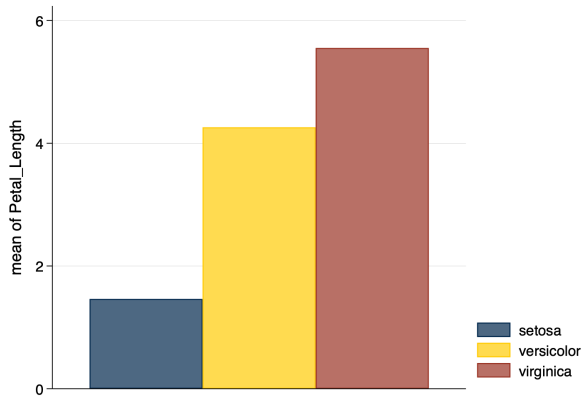

Figure 5: Bar Graph Using Michigan Scheme and Slightly Transparent Bars

Scatterplot

```
. twoway (scatter Petal_Length Petal_Width) ///
> (lfit Petal_Length Petal_Width), ///
> scheme(michigan)
```

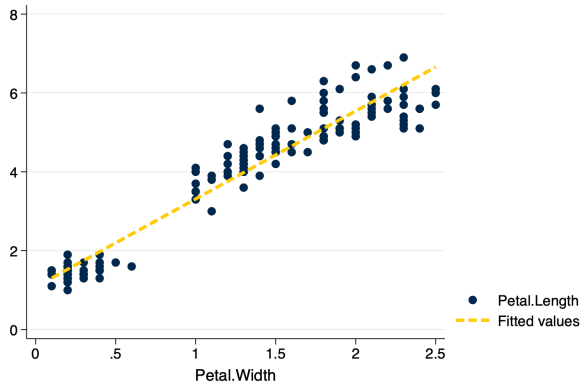

Figure 6: Scatterplot Using Michigan Scheme

Scatterplot With Transparency

```
. twoway (scatter Petal_Length Petal_Width, mcolor(%30)) /// markers have 30% transpare
> ncy
> (lfit Petal_Length Petal_Width), ///
> scheme(michigan)
```

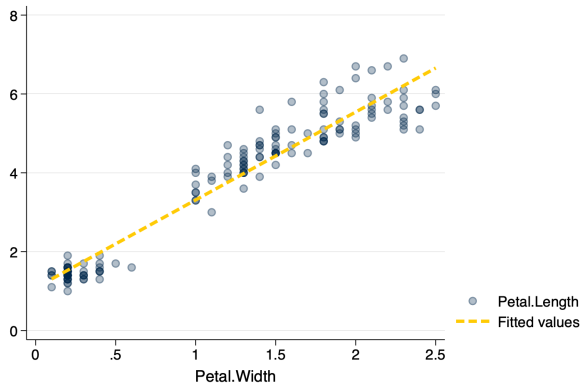

Figure 7: Scatterplot Using Michigan Scheme And Slightly Transparent Markers

Legend Placement

Sometimes you may wish to have the legend of the graph placed at the *bottom* of the graph. The `pos(6)` suboption inside the `legend` option will place the legend at the bottom, while you can manually control the number of legend rows with the `rows` suboption.

```
. graph bar Petal_Length, over(Species) scheme(michigan) asyvars legend(pos(6) rows(1))
```

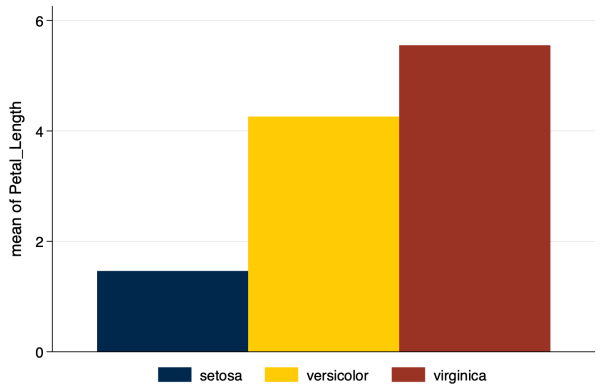

Figure 8: Bar Graph Using Michigan Scheme and Modified Legend

Individual Michigan Colors

Individual University of Michigan colors are listed below.

Color	Hex	RGB
Blue	#00274C	0 39 76
Maize	#FFCB05	255 203 5
Tappan Red	#9A3324	154 51 36
Ross School Orange	#D86018	216 96 24
Wave Field Green	#A5A508	165 165 8
Taubman Teal	#00B2A9	0 178 169
Arboretum Blue	#2F65A7	47 101 167
Ann Arbor Amethyst	#702082	112 32 130
Matthaei Violet	#575294	87 82 148
Umma Tan	#CFC096	207 192 150
Burton Tower Beige	#9B9A6D	155 154 109
Angell Hall Ash	#989C97	152 156 151
Law Quad Stone	#655A52	101 90 82

Stata can use RGB codes for colors. As an example.

```
. twoway (scatter Petal_Length Petal_Width, mcolor("112 32 130 %30")) /// markers are A
> methyst with 30% transparency
> (lfit Petal_Length Petal_Width, lcolor("87 82 148")), /// Violet line
> scheme(michigan)
```

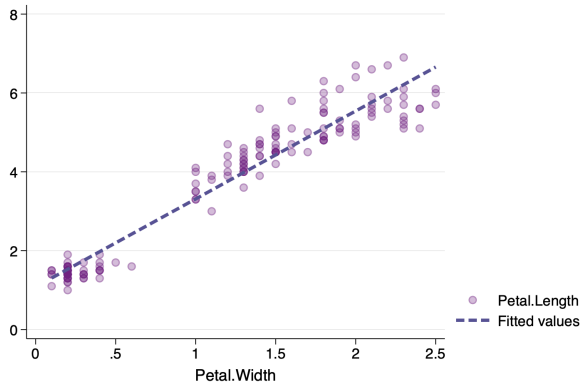

Figure 9: Scatterplot Using Michigan Scheme, Selected Colors, And Slightly Transparent Markers

Michigan2 Graph Scheme

I have also developed a `michigan2` graph scheme: `, scheme(michigan2)`.

This graph scheme can be installed using the same instructions as above. The `michigan2` scheme slightly reorders the color palette of the original scheme. The scheme begins with blue and maize, but then moves to the *cooler* colors before moving to *Tappan Red* and *Ross Orange*. *Taubman Teal*–a very fluorescent color–is moved to the end of the palette.

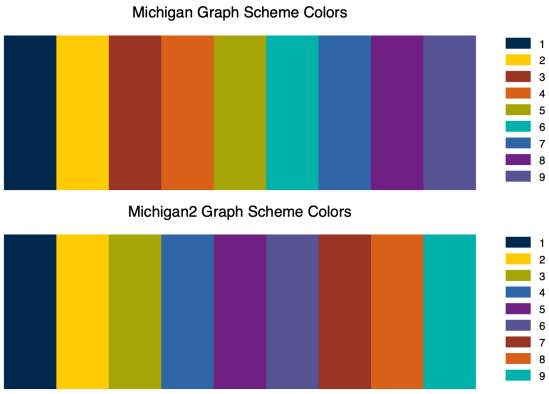

Figure 10: Colors in Michigan Graph Schemes