

Fall 2019  
Tuesdays and Thursdays  
4:30 – 5:45 pm

Non-Computer Science students welcome!  
Prerequisite for all: permission of instructor →

Chris Weaver  
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Carson Engineering Center (CEC)  
Room 119 (subject to change)

# Computer Science 5093

# Visual Analytics

*the science of analytical reasoning facilitated by interactive visual interfaces*

Analytic reasoning is a process that encompasses perception, cognition, discourse, and collaboration. This course considers methods and tools that support analytic reasoning by combining human visual capabilities with computational devices and algorithms. Topics include data representation and transformation, data mining and knowledge discovery, visual representation and interaction, sense-making, production and dissemination of knowledge, and the challenges that information complexity and scalability pose for the very human process of reasoning.

*The seminar format will include reading, discussion, and application of existing software environments to problems in visual analytics. The goals of this course are for students to: (1) develop a comprehensive understanding of this evolving, multidisciplinary field; (2) apply that understanding to a tightly focused research problem in a domain of personal interest (computational, geospatial, meteorological, historical, etc.) Course research projects may involve: advancing the theory of visually-facilitated analytical reasoning, developing new methods to support analytic tasks in specific domains, applying existing methods and tools to analytic challenges in these domains, or evaluating and improving the usefulness and usability of applications. Discussion will include a range of topics from information visualization, geographic information systems, data mining, perceptual psychology, and cognitive science.*

