

# Visual Analytics Certificate

A six-week (3 CEUs) online course focused on understanding and creating data visualizations that translate complex data into actionable insights.

## Course Topics

Each week the course combines data visualization theory with practical hands-on material and case studies.

**Week 1** *Data-Driven Decision Making, Visual Analytics Framework, Workflow Design*

**Week 2** *“When”: Temporal Data Analysis and Visualization*

**Week 3** *“Where”: Geospatial Data Analysis and Visualization*

**Week 4** *“What”: Topical Data Analysis and Visualization*

**Week 5** *“With Whom”: Network Analysis and Visualization*

**Week 6** *Future Developments, Value Creation via Data-Driven Decision Making*

**Next Offered:**

January 20–March 1, 2020

**Register Online:**

[tinyurl.com/VACRegister2020S1](http://tinyurl.com/VACRegister2020S1)

**For More Information Contact:**

Elizabeth Record  
[recorde@indiana.edu](mailto:recorde@indiana.edu)

## Students will learn...

- to discuss data and visualization using a common language
- to evaluate data and visualizations, and communicate insights across the company
- to apply visualization theories and best practice when using industry standard tools like Tableau and D3
- to implement a proven user-centered visualization design process

## Case Studies: Solving Real-World Challenges

Students apply new knowledge and skills in projects that require identifying user needs and priorities; selecting the best data, algorithms, and workflows for temporal, geospatial, topical, and network case studies; communicating actionable insights using standard terminology; and gaining efficiencies for delivering high-quality results on time and on budget.



Monitor S&T  
Developments



Manage  
Communication Flows



Optimize  
Traffic Flows



Manage  
Customer Feedback



Improve Network  
Resilience



Develop  
Workforce

## Related Books

The following books are used extensively in the course. Discover these highly regarded, award-winning books at your favorite bookstore.



*Atlas of Knowledge:  
Anyone Can Map*

ISBN 0262028816



*Atlas of Science:  
Visualizing What  
We Know*

ISBN 0262014459



*Visual Insights:  
Making Sense of  
Big Data*

ISBN 0262526190

## Instructors

Learn from instructors with diverse backgrounds who are experienced researchers and educators deeply committed to providing industry leading instruction and support.



**Katy Börner**

Instructor

Victor H. Yngve Distinguished Professor of Engineering and Information Science at the School of Informatics, Computing, and Engineering. Founding Director of the Cyberinfrastructure for Network Science Center (<http://cns.iu.edu>) at Indiana University.

- Research focus on development of data analysis and visualization techniques for information access, understanding, and management.
- Cyberinfrastructures development for large-scale scientific collaboration and computation.



**Michael Ginda**

Assistant Instructor

Data analyst and research assistant with the Cyberinfrastructure for Network Science Center. He holds a Master's degree in Library Science from Indiana University.

- Research focus on knowledge representation and organization, metadata, and information networks.
- Lead instructional designer.



**Andreas Bueckle**

Assistant Instructor

PhD Candidate in Information Science at Indiana University focused on information visualization with a background in digital media.

- Research focus on information visualization, specifically in virtual and augmented reality.
- Videography and photography.

## Support Team



**Elizabeth Record**  
Associate Director



**Bruce Herr II**  
Senior System  
Architect / PM



**Leonard Cross**  
Senior Interaction  
Designer