



# ***Computational Thinking***

***Computer Science 6604  
Fall, 2013***

***Tuesday-Thursday, 5:15-6:30PM  
1110 Knowledgeworks II***

For additional information  
contact

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**Participation** sought from faculty and graduate students with:

- awareness, curiosity, and ideas about computational thinking,
- interest in applying computational thinking to their or other knowledge domains, or
- expertise in curriculum and pedagogy as it might apply to computational thinking.

**Goals** for the course include:

- developing a shared sense of computational thinking through readings and discussions about the nature and scope of computational thinking, experiences of others in K12 and university settings, and relevant ideas from teaching and learning.
- generating ideas about how computational thinking could be included in college level curriculum based on the requirements provided by course participants for their knowledge domains.

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## **Example Readings**

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- Report of a Workshop on the Scope and Nature of Computational Thinking. 2010, National Research Council.
- Report of a Workshop on the Pedagogical Aspects of Computational Thinking. 2011, National Research Council.
- Wing, J.M., Computational thinking. *Communication of the ACM*, 2006. 49(3): p. 33-35.
- Wing, J.M., Computational Thinking and Thinking About Computation. *Philosophical Transactions of the Royal Society A*, 2008. 366(1881): p. p. 3717-3725.
- Aho, A., Computation and Computational Thinking. *The Computer Journal*, 2012. 56(7): p. 832-835.
- Astrachan, O., et al., The present and future of computational thinking, in *Proceedings of the 40th ACM technical symposium on Computer science education*. 2009, p. 549-550.