Course Description
This course will cover probabilistic graphical models – powerful and interpretable models for reasoning under uncertainty. The generic families of models such as directed, undirected, and factor graphs as well as specific representations such as hidden Markov models and conditional random fields will be discussed. The discussions will include both the theoretical aspects of representation, learning, and inference, and their applications in many interesting fields such as computer vision, natural language processing, computational biology, and medical diagnosis.

Prerequisites
Knowledge of probability and statistics is required. CS480 or CS584 are recommended but not required.

Date and Location
MW – 1:50pm – 3:05pm
Stuart Building 201

Instructor
Mustafa Bilgic
Office hours: Tuesdays 11am – 12pm
Office: Stuart Building 228C
Email address: mbilgic@iit.edu
Website: http://www.cs.iit.edu/~mbilgic/

Teaching Assistant
None at the moment

Textbook
The recommended textbook for this course is Probabilistic Graphical Models, by Daphne Koller and Nir Friedman.
Textbook website: http://pgm.stanford.edu/

Online Tools
For questions and answers, please use Piazza: https://piazza.com/iit/spring2016/cs583/home
Course slides, assignments, and projects will be handled through Blackboard: [https://blackboard.iit.edu/](https://blackboard.iit.edu/)

**Grading**

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<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Assignments/Quizzes</td>
<td>20%</td>
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<td>Project</td>
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<td>Midterm</td>
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<td>Final</td>
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**Programming Language**

Programming in a language of your choice is required. You’ll need to submit source code for the project.

**Late Submission Policy**

Every late minute will cost you 1 point. No exceptions, except documented medical emergencies.

**Code of Academic Honesty**

[https://web.iit.edu/student-affairs/handbook/fine-print/code-academic-honesty](https://web.iit.edu/student-affairs/handbook/fine-print/code-academic-honesty)

**Americans with Disabilities Act (ADA) Policy**

Reasonable accommodations will be made for students with documented disabilities. In order to receive accommodations, students must obtain a letter of accommodation from the Center for Disability Resources. The Center for Disability Resources (CDR) is located in 3424 S. State St., room 1C3-2 (on the first floor), telephone: 312.567.5744 or disabilities@iit.edu.