

# EEC 289A: Introduction to Reinforcement Learning

Spring 2021

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**Office Hours:** TBD  
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**Lectures:** TBD  
**Prerequisites:** EEC260 or equivalent  
**Required Textbook:** *Reinforcement Learning: An Introduction*, 2nd Ed.  
Richard S. Sutton and Andrew G. Barto  
MIT Press, 2018.  
ISBN-10: 0262039249 ISBN-13: 978-0262039246

**Course catalog description:** This course focuses on the introduction of one important subject of machine learning: Reinforcement Learning (RL), which is considered the core for artificial intelligence. Topics include fundamentals of RL, bandit problems, Markov decision processes, dynamic programming, Monte Carlo methods, temporal-difference learning, on-policy vs. off-policy learning, learning vs. planning, approximation methods, eligibility trace, policy gradient methods, and critic-actor methods.

## Grading, Exams, Homework, Project:

Homework	50%
Project	50%

Grade:

$A+ \geq 95\% > A \geq 90\% > B \geq 80\% > C \geq 70\% > D \geq 60\% > F$

## Homework Information

Homework will be assigned (roughly) weekly on Wednesdays, to be submitted via Canvas before the beginning of the next Wednesday class. Homework sets will mainly be computer programming to implement learning algorithms discussed in the class. **You need to write your program using matlab. For each homework, you need to submit your matlab code and report.** In your report, please include information about how you implement the algorithms, how much time it takes for your code to finish, figures you produced, and some discussions. If you are not able to reproduce exactly the same figure, to get partial credit, please add discussions on what you have tried and your thoughts about the reason why the figure you produced is not the same as the book.

**Code of Academic Conduct:**

UC Davis code of academic conduct will be strictly enforced. Please see the following link for details: <http://sja.ucdavis.edu/files/cac.pdf>

**Note:** This syllabus is subject to change.