



WPI

CS 4341

Introduction to Artificial Intelligence

Lecture 1: Course Introduction

By

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Worcester Polytechnic Institute

Instructor and TA/PLA Information

- **Name:** Ben C.K. Ngan, Ph.D. (He/Him/His)
- **Contact:** Canvas Course Email or Discord Message (Highly Recommended)
- **Office:**
 - Office Hours:
 - 12:00 p.m. ~ 01:00 p.m. on **Tuesday** and **Friday**
 - By Appointment
 - Office Location: Unity Hall 381
- **Teaching Assistant:** Davud Azizov (He/Him/His)
 - Office Hours:
 - 03:30 p.m. ~ 04:30 p.m. on **Monday** and **Thursday**
 - By Appointment
 - Office Location: Fuller Labs A22

Note that we aim to respond to your messages within 12 hours, when possible.

Instructor and TA/PLA Information

- **Peer Learning Assistant:** Alexander Gu (He/Him/His)
 - Office Hours:
 - 01:00 p.m. ~ 02:00 p.m. on **Monday** and **Wednesday**
 - By Appointment
 - Office Location: Fuller Labs A22

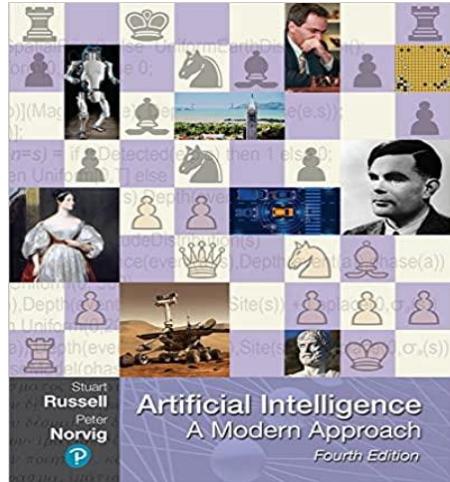
Note that we aim to respond to your messages within 12 hours, when possible.

Recommended Background

- Recommended Prerequisites: Familiarity with data structures, algorithms, and high-level programming languages is required. Python would be strongly recommended.
- Some basic knowledge in math models, algorithms, logic, machine/deep learning, natural language processing, computer vision, etc., is highly desired and helpful.
- Highly Recommended or Related Background:
 - CS 2102. OBJECT-ORIENTED DESIGN CONCEPTS
 - CS 2223. ALGORITHMS
 - CS 3133. FOUNDATIONS OF COMPUTER SCIENCE
 - CS 5007. INTRODUCTION TO APPLICATIONS OF COMPUTER SCIENCE WITH DATA STRUCTURES AND ALGORITHMS
 - CS 5084. INTRODUCTION TO ALGORITHMS: DESIGN AND ANALYSIS
- If you don't have the recommended background, you may like to consider taking CS 4341 later.

Reference Book and Code Resources

- **Main Reference Textbook**



<http://aima.cs.berkeley.edu/>

- **O'Reilly Books Online**

- <http://go.oreilly.com/worcester-polytechnic-institute>
- Username: "Your WPI Email ID"
- Password: "Your WPI Email Password"

CS 4341 is **NOT** a programming class.

CS 4341 focuses on discussing and understanding AI-related methods and algorithms **NOT** teaching how to do the coding. Coding will not be covered and discussed in this course.

However, I will deliver some program code demonstrations, if needed, related to each-week topic.

All the sample codes for those methods and algorithms have been provided on

<https://github.com/aimacode/aima-python> or other public available resources.

Course Description and Objectives

- **Description:**
 - Deductive Reasoning: It covers general knowledge representation techniques and strategies, including intelligent agents, problem solving, different searching algorithms, etc.
 - Inductive Learning: It covers several important areas in AI, including machine learning, deep learning, natural language processing, etc.
- **Objectives:**
 - Students will acquire knowledge on the concepts and problems from classical as well as state-of-the-art areas of AI.
 - Students will develop a deeper understanding of some of the most important methods and algorithms in AI.
 - Students will learn to work in a team and jointly apply their skills to solve real-world problems.
 - Students will learn how AI technologies have been widely used in the real-world industries.

Assessment/Submission/Grading

- **Assessment:**
 - **Individual Project (IP) Assignments (30%)**
 - 3 Assignments
 - IP1: 20 Points (Kick-off Assignment)
 - IP2 and IP3: 100 Points Each
 - **Group Project Assignments (30%)**
 - Number of Students Per Team (Expected Five Members)
 - 2-Phases Project and **Peer Review Forms**
 - **Final Exam (30%)**
 - Open Books and Notes with a calculator without accessing the electronic devices, ChatGPT/Similar GenAI tools, and Internet.
 - All the Materials **having been discussed in this course**
 - **Class Quizzes (10%)**
 - Two Quizzes. Note that the make-up quizzes can be given in other periods but with 2% of the graded scores deducted.
 - Open Books and Notes with a calculator without accessing the electronic devices, ChatGPT/Similar GenAI tools, and Internet.
 - Only the Materials **having been discussed already**
- **Extra Credits:** 5% of Your Graded Final Exam Score will be awarded if you attend 12 out of 14 class meetings. For example, if your final exam score is 86, the new score is $86 \times 1.05 = 90.3$.
- **Discord:** Will be Released on **11/03/2025** After the Add/Drop Period
- **Submission:**
 - A Zip File, Including One PDF File with the Program Codes, if applicable
 - No Late Submission Expected or a 10% of the Graded Score Penalty Per Day
 - Partial Credits are provided.

Final Course Grade

Final course grades will be awarded and scaled based on the follow performance of the class.

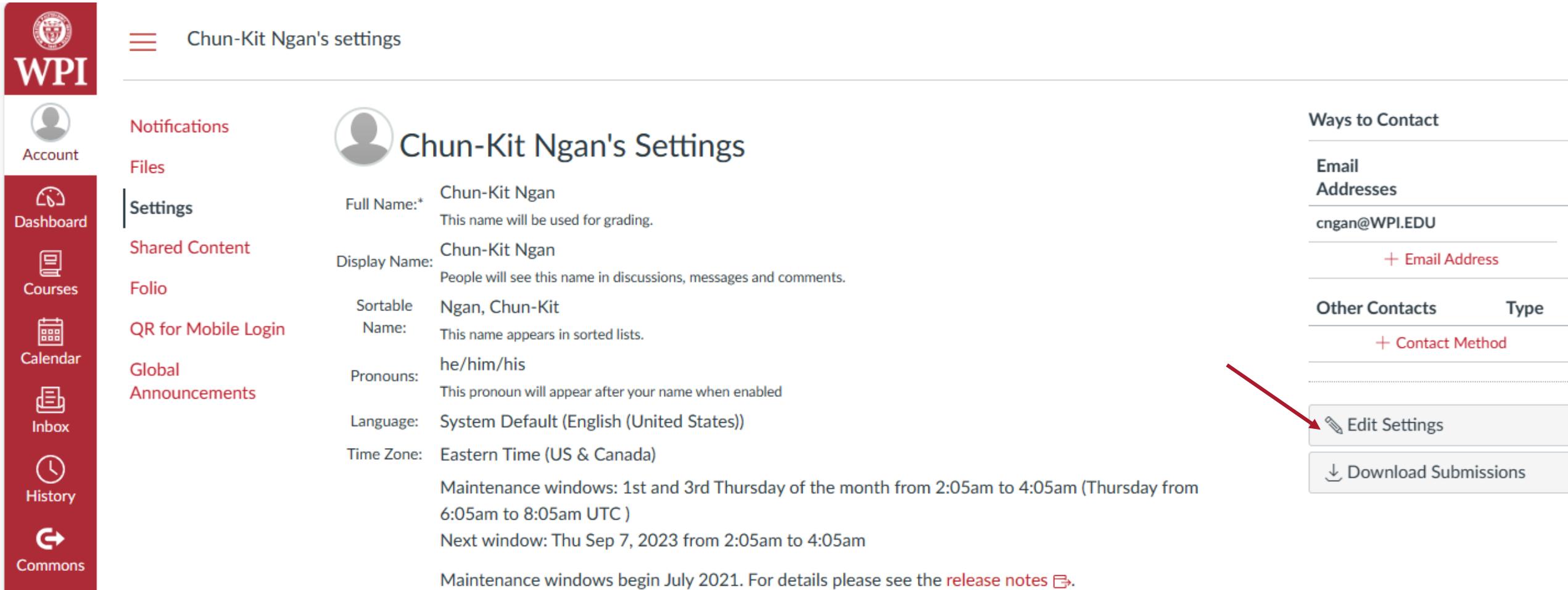
Letter Grade	GPA	Numerical Grade
A	4.0	90 - 100
B	3.0	80 - 89
C	2.0	70 - 79
D	1.0	60 - 69
F	0.0	< 60

Note that active class participation will be considered in determining the final course grade in the marginal situation.

Pronoun and Inclusivity Statements

- **Pronoun Statement:**
 - At WPI, we are a community that stands for civility and respect. We stand for acceptance of others and champion those who may need compassion and understanding. We are an inclusive community that respects peaceful discord and upholds a fundamental belief that all members of our community should feel safe ("WPI Values Statement"). As such, in this classroom, I expect that we will all refer to and respect people using the names and personal pronouns that they share. If you have any questions, please ask me and/or refer to <https://pronouns.org/>.
- **Inclusivity Statement:** The students and instructor are expected to take Diversity, Equity and Inclusion seriously. The class acknowledges and actively promotes the following:
 - Individual differences (e.g., personality, learning styles, life experiences)
 - Group/social differences (e.g., race/ethnicity, class, gender, sexual orientation, country of origin, physical or cognitive abilities, as well as cultural, political, or religious affiliation)
 - An atmosphere of well-being and inclusion in the classroom
 - Fair treatment of all classroom participants regardless of their background

Canvas: Add Your Personal Pronouns to Your Canvas Profile



The screenshot shows the 'Chun-Kit Ngan's Settings' page in Canvas. On the left, a sidebar lists various account settings like Notifications, Files, Shared Content, Folio, QR for Mobile Login, Global Announcements, and more. The 'Settings' tab is selected. In the main area, there are several input fields:

- Full Name:** Chun-Kit Ngan (Note: This name will be used for grading.)
- Display Name:** Chun-Kit Ngan (Note: People will see this name in discussions, messages and comments.)
- Sortable Name:** Ngan, Chun-Kit (Note: This name appears in sorted lists.)
- Pronouns:** he/him/his (Note: This pronoun will appear after your name when enabled)
- Language:** System Default (English (United States))
- Time Zone:** Eastern Time (US & Canada)
Maintenance windows: 1st and 3rd Thursday of the month from 2:05am to 4:05am (Thursday from 6:05am to 8:05am UTC)
Next window: Thu Sep 7, 2023 from 2:05am to 4:05am

At the bottom, it says: Maintenance windows begin July 2021. For details please see the [release notes](#).

To the right, a 'Ways to Contact' section includes an 'Email Addresses' field with 'cngan@WPI.EDU' and a '+ Email Address' link. Below it is an 'Other Contacts' section with a '+ Contact Method' link. At the bottom right, there are 'Edit Settings' and 'Download Submissions' buttons.

Course Content and Schedule

**Please check the Canvas web page and
the separate documents.**