

MET CS 664 Artificial Intelligence 2025 Fall 1 Online Course Syllabus

Instructor

Eric Braude, Ph.D. ebraude@bu.edu

Course Duration

Start: September 2, 2025

End: October 20, 2025

Course credits

4 credits

Course Description

Study of the theories and techniques that enable computing systems to behave in a manner traditionally associated only with humans. Search, constraint propagation, knowledge representation, natural language models, reinforcement learning, and inference.

Prerequisites: MET CS 341, MET CS 342, MET CS 520, or MET CS 521. Or instructor's consent.

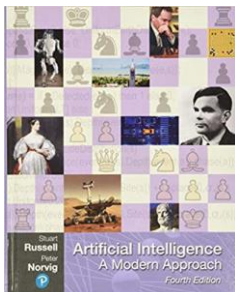
Course Learning Objectives

By successfully completing this course, you will be able to do the following:

- Identify opportunities for computing systems to behave intelligently.
- Compare how search and knowledge representation can be applied.
- Apply natural language models.
- Relate AI and machine learning.
- Implement AI techniques.

Course Materials

Required Book



Russell, S & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach* (Pearson Series in Artificial Intelligence) (4th ed.)

Publisher: Pearson

ISBN-13: 978-0134610993; ISBN-10: 0134610997

This book can be purchased from [Barnes and Noble at Boston](#)

[University](#).

This textbook will be referred to in the syllabus and course notes as “Russell & Norvig”.

Study Guide and Timeline of Deliverables

Module 1 Study Guide and Deliverables (September 2 – September 8, 2025)

Module Theme: Introduction and Agents; Searching for Solutions; Heuristics; The A* Algorithm

Readings:

- Module 1 online content
- Russell & Norvig Chapter 1 (Introduction), concentrate on Section 1.1
- Russell & Norvig Chapter 3 (Solving Problems) by Searching, concentrate on Section 3.1
- Russell & Norvig Chapter 4 (Search in Complex Environments), concentrate on Section 4.1

Assignments:

- Self-Introduction due **Thursday, September 4, at 11:59 PM ET** (not graded)
- Draft Assignment 1 due **Sunday, September 7, at 6:00 AM ET**
- Assignment 1 due **Wednesday, September 10, at 6:00 AM ET**

Live Classrooms:

- Wednesday, September 3, from 8:00 PM to 9:00 PM ET
- Thursday, September 4, from 8:00 PM to 9:00 PM ET
- Live Office: Wednesday and Thursday after Live Classroom, for as long as there are questions

Module 2 Study Guide and Deliverables (September 9 – September 15, 2025)

Module Theme: Constraint Satisfaction; Reasoning in First-Order Logic

Readings:

- Module 2 online content
- Russell & Norvig Chapter 6 (Constraint Satisfaction Problems), concentrate on Section 6.1
- Russell & Norvig Chapter 2 (Intelligent Agents), concentrate on Section 2.1
- Russell & Norvig Chapter 7 (Logical Agents), concentrate on Section 7.1
- Russell & Norvig Chapter 8 (First-Order Logic), concentrate on Section 8.1

- Russell & Norvig Chapter 9 (Inference in First-Order Logic), concentrate on Section 9.1

Assignments:

- Draft Assignment 2 due **Sunday, September 14, at 6:00 AM ET**
- Assignment 2 due **Wednesday, September 17, at 6:00 AM ET**

Live Classrooms:

- Wednesday, September 10, from 8:00 PM to 9:00 PM ET
- Thursday, September 11, from 8:00 PM to 9:00 PM ET
- Live Office: Wednesday and Thursday after Live Classroom, for as long as there are questions

Module 3 Study Guide and Deliverables **(September 16 – September 22, 2025)**

Module Theme: Planning; Uncertainty and Bayesian Reasoning

Readings:

- Module 3 online content
- Russell & Norvig Chapter 11 (Automated Planning), concentrate on Section 11.1
- Russell & Norvig Chapter 12 (Quantifying Uncertainty), concentrate on Section 12.1

Assignments:

- Draft Assignment 3 due **Sunday, September 21, at 6:00 AM ET**
- Assignment 3 due **Wednesday, September 24, at 6:00 AM ET**

Live Classrooms:

- Wednesday, September 17, from 8:00 PM to 9:00 PM ET
- Thursday, September 18, from 8:00 PM to 9:00 PM ET
- Live Office: Wednesday and Thursday after Live Classroom, for as long as there are questions

Module 4 Study Guide and Deliverables **(September 23 – September 29, 2025)**

Module Theme: Fuzzy Theory, Reasoning, and Rules

Readings:

- Module 4 online content

Assignments:

- Draft Assignment 4 due **Sunday, September 28, at 6:00 AM ET**

- Assignment 4 due **Wednesday, October 1, at 6:00 AM ET**

Live Classrooms:

- Wednesday, September 24, from 8:00 PM to 9:00 PM ET
- Thursday, September 25, from 8:00 PM to 9:00 PM ET
- Live Office: Wednesday and Thursday after Live Classroom, for as long as there are questions

Module 5 Study Guide and Deliverables (September 30 – October 6, 2025)

Module Theme: Introduction to Machine Learning; Reinforcement Learning

Readings:

- Module 5 online content
- Russell & Norvig Chapter 21 (Deep Learning), concentrate on Section 21.1
- Russell & Norvig Chapter 22 (Reinforcement Learning), concentrate on Section 22.1

Assignments:

- Draft Assignment 5 due **Sunday, October 5, at 6:00 AM ET**
- Assignment 5 due **Wednesday, October 8, at 6:00 AM ET**

Live Classrooms:

- Wednesday, October 1, from 8:00 PM to 9:00 PM ET
- Thursday, October 2, from 8:00 PM to 9:00 PM ET
- Live Office: Wednesday and Thursday after Live Classroom, for as long as there are questions

Module 6 Study Guide and Deliverables (October 7 – October 13, 2025)

Module Theme: Natural Language; Integration of AI techniques

Readings:

- Module 6 online content
- Russell & Norvig Chapter 23 (Natural Language Processing), concentrate on Section 23.1

Assignments:

- **Optional** Draft Assignment 6 due **Sunday, October 12, at 6:00 AM ET**
- Assignment 5 due **Wednesday, October 15, at 6:00 AM ET**

Live Classrooms:

- Wednesday, October 8, from 8:00 PM to 9:00 PM ET
- Thursday, October 9, from 8:00 PM to 9:00 PM ET
- Live Office: Wednesday and Thursday after Live Classroom, for as long as there are questions

Course Evaluation:

Please complete the [course evaluation](#) once you receive an email or Blackboard notification indicating the evaluation is open. Your feedback is important to MET, as it helps us make improvements to the program and the course for future students.

Final Exam Details

The Final Exam is a proctored exam available from **Wednesday, October 15, 2025, at 6:00 AM ET to Saturday, October 18, 2025, at 11:59 PM ET.**

The Computer Science department requires that all final exams be administered using an online proctoring service, which you will access via your course in Blackboard. In order to take the exam, you are required to have a working computer, webcam, speakers, and microphone that meet the proctoring service's system requirements. A detailed list of those requirements can be found in the Proctored Exam Information module located on the course home page. Additional information regarding your proctored exam will be forthcoming from the Assessment Administrator. You will be responsible for scheduling your proctored exam session within the defined exam window.

The exam is accessible during the final exam period. You can access it from the Assessments section of the course. Your proctor will enter the password to start the exam.

Final Exam Duration: **three hours (180 minutes)**

Exam Format: 5 Coding questions covering Modules 1 through 6. Each question is worth 20 points.

The exam is open book/open notes and features essay questions. Each question is worth equal points.

Evaluation of Students and Grading

To attain excellence ("A" work), you are expected to go beyond satisfying the assignment statement essentials, and to develop your own analyses and comparisons. Additional detailed criteria are listed later in this Syllabus section.

Basis for Grades

There are three components to your grades.

1. Draft Assignments

- Each Draft Assignment typically requests part of the module's assignment and is intended to help you complete the latter. You may only submit your draft assignment once, so that you can get feedback before your assignment for that module is due. We encourage you to start the draft version early in each module.
- Draft Assignments are graded on a Pass/Fail basis, with Pass=1, Fail (Not yet acceptably on track)=0, and Neither=0.5.
- Draft Assignment 6 in Module 6 is optional, so you can concentrate on completing your Assignment 6 during Week 6. Your draft assignments grade will be calculated from Draft Assignment 1 to Draft Assignment 5. If you do choose to complete Draft Assignment 6, its grade will replace a prior draft assignment with a 0.5 or 0.0 grade—if one exists. (There is no extra credit for Draft Assignment 6 other than this.)

2. Assignments

- You are permitted to submit and resubmit your weekly assignment unlimited times to improve your work, provided you do so before the assignment deadline for that module.
- The regular weekly assignments in total are worth 60% of the course grade. The teaching team expects your understanding to improve throughout the course. Accordingly, the first sets of assignments weigh less than the rest, so you will have opportunities to catch up along the way. The weight of assignments ramps up as follows:
 - Assignment 1 (Module 1): 7%
 - Assignment 2 (Module 2): 8%
 - Assignment 3 (Module 3): 10%
 - Assignment 4 (Module 4): 11%
 - Assignment 5 (Module 5): 12%
 - Assignment 6 (Module 6): 12%

3. Final Exam

- There will be a proctored final exam in this course. Detailed instructions regarding your proctored exam will be forthcoming from the Assessment Administrator. You will be responsible for scheduling your own appointment.
- Please keep the contents of the final exam confidential. Sharing details about this exam constitutes academic misconduct for both parties.

Grade Computations

The course grade will be computed from the following:

- Draft Assignments: 10%
- Assignments: 60%
- Proctored Final Exam: 30%

Assignments Rubric

The module assignments are graded according to the overall rubric format below; individual assignments may contain variations of this form. These are averaged using the following guidelines: A+=100 (outstanding), A=95 (excellent in all ways), A-=90 (excellent), B+=87 (excellent/very good), B=85 (very good), B-=80 (good) etc. When a paper is considered outstanding, a score of up to 100 can be given.

Criteria	D	C	B	A
Technical correctness of value added	Little technical justification	Correct technically. Satisfactory technical explanations.	Correct technically. Good. Did what was required.	Correct technically. Went significantly beyond what's required.
Clarity of value added	Unclear	Somewhat clear	Clear	Every aspect completely clear
Overall understanding as evidenced by value added	Minor understanding evidenced	Satisfactory understanding evidenced	Evidence of good understanding throughout	Evidence throughout of thorough understanding

Draft Assignment Rubric

The draft assignment grades are: *Acceptably on track* (1), *Not yet acceptably on track* (0), and *Neither* (0.5).

To get an A grade for the course, your weighted average should be >93. A->=90. B+>=87. B>83. B->=80 etc.

By the time grades are submitted to the registrar, the class average will be approximately an 87 (B+).

Grades typically start lower, allowing room for growth as the term progresses.

Note: An A grade at Boston University is reserved for excellent work. If you are given an A, you are to be congratulated. The university officially designates good work as deserving of a B and we reward good work with a B accordingly. It is our obligation to tell you, as far as we can, what would improve your work. (That can sometimes be hard if you receive an A, of course.) If you don't see such feedback, please remind your facilitator/instructor about it. Grades are an excellent motivator, but they are only means to an end rather than ends in themselves. The average grade in graduate courses is usually expected to be a B+. If the course average turns

out to be less than this at the end of the term, and the class performance is not less than average, I am able to elevate some grades that fall on borderlines.

Ungraded Items:

- **Ungraded Discussion Forums:** There are ungraded discussion forums throughout the course. You are encouraged to share your knowledge and learn from your peers. Discussions forums are provided for your benefit. Some discussion forums involve the instructional staff; others are among students.
- **Live Classroom Sessions:** Live Classroom sessions will be offered during this course in Modules 1 through 6. In each module, students have a Live Classroom session with the instructor and another Live Classroom (or problem-solving session) with the facilitator. Days/times will be posted in the Study Guide and the “Announcements” area.
 - Your participation, while not mandatory, will be valuable to you and the class. To participate in the Live Classroom discussion, you will need to go to the “Live Classroom/Offices” area.
 - Live Classroom sessions will be recorded and archived for further viewing. You can go to the “Live Classroom Recordings” area to view the recordings.

Expectations

We recognize that emergencies occur in professional and personal lives. If one occurs that prevents your completion of homework by a deadline, please make this plain to your facilitator. This must be done in advance of the deadline (unless the emergency makes this impossible, of course), and should be accompanied by particulars that back it up. Additional documentation may be requested. No regular credit will otherwise be granted for late homework, but we will note it and it may influence your course grade at the end of the term.

Policy for the Use of Generative AI

Students should learn how to use AI text generators and other AI-based assistive resources (collectively, AI tools) to enhance rather than damage their developing abilities as writers, coders, communicators, and thinkers.

When using Generative AI in coursework, students shall:

1. Give credit to AI tools whenever used, even if only to generate ideas rather than usable text or illustrations.
2. When using AI tools on assignments, add an appendix showing (a) the entire exchange, highlighting the most relevant sections; (b) a description of precisely which AI tools were used (e.g. ChatGPT private subscription version or DALL-E free version), (c) an explanation of how the AI tools were used (e.g. to generate ideas, turns of phrase, elements of text, long stretches of text, lines of argument, pieces of evidence, maps of conceptual territory, illustrations of key concepts, etc.); (d) an account of why AI tools were used (e.g. to save time, to surmount writer’s

block, to stimulate thinking, to handle mounting stress, to clarify prose, to translate text, to experiment for fun, etc.).

3. Not use AI tools during in-class examinations, or assignments, unless explicitly permitted and instructed.
4. Employ AI detection tools and originality checks prior to submission, ensuring that their submitted work is not mistakenly flagged.
5. Use AI tools wisely and intelligently, aiming to deepen understanding of subject matter and to support learning.

Specific deliverables are included in each of the assignment instructions. For more details, please see the [Generative AI Assistance \(GAIA\) policy](#).

Course Policies and Academic Conduct

Academic Integrity: Plagiarism is the passing off of another's words or ideas as your own, and it is a serious academic offense. Plagiarism and cheating also defeat the purpose of getting an education. Plagiarism and cheating cases will be handled in accordance with the disciplinary procedures described in the College of Arts and Sciences Academic Conduct Code. You are expected to know and abide by the code, which can be read online: [Academic Conduct Code](#). Penalties range from failing an assignment or course (first offense) to suspension or expulsion from BU. If in doubt, cite your source. If you have any questions about academic integrity, please ask your instructor.

Incidents of academic misconduct will be reported to the Academic Conduct Committee (ACC). The ACC may suspend/expel students found guilty of misconduct.

Important Message on Final Exams

Dear Boston University Computer Science Online Student,

As part of our ongoing efforts to maintain the high academic standard of all Boston University programs, including our online MSCIS degree program, the Computer Science Department at Boston University's Metropolitan College requires that each of the online courses includes a proctored final examination.

By requiring proctored finals, we are ensuring the excellence and fairness of our program. The final exam is administered online.

Specific information regarding final-exam scheduling will be provided approximately two weeks into the course. This early notification is being given so that you will have enough time to plan for where you will take the final exam.

I know that you recognize the value of your Boston University degree and that you will support the efforts of the University to maintain the highest standards in our online degree

program.

Thank you very much for your support with this important issue.

Regards,

Professor Lou Chitkushev, Ph.D.
Associate Dean for Academic Affairs
Boston University Metropolitan College

Who's Who: Roles and Responsibilities

You will meet many BU people in this course and program. Some of these people you will meet online, and some you will communicate with by email and telephone. There are many people behind the scenes, too, including instructional designers, faculty who assist with course preparation, and video and animation specialists.

People in Your Online Course in Addition to Your Fellow Students

Your Facilitator. Our classes are divided into small groups, and each group has its own facilitator. We carefully select and train our facilitators for their expertise in the subject matter and their excellence in teaching. Your facilitator is responsible for stimulating discussions in pedagogically useful areas, for answering your questions, and for grading homework assignments, discussions, term projects, and any manually graded quiz or final-exam questions. If you ask your facilitator a question by email, you should get a response within 24 hours, and usually faster. If you need a question answered urgently, post your question to one of the urgent help topics, where everyone can see it and answer it.

Your Professor. The professor for your course has primary responsibility for the course. If you have any questions that your facilitator doesn't answer quickly and to your satisfaction, then send your professor an email in the course, with a cc to your facilitator so that your facilitator is aware of your question and your professor's response.

Your Lead Faculty and Student Support Administrator, Jennifer Sullivan. Jen is here to ensure you have a positive online experience. You will receive emails and announcements from Jen throughout the semester. Jen represents Boston University's university services and works for BU Virtual. She prepares students for milestones such as course launch, final exams, and course evaluations. She is a resource to both students and faculty. For example, Jen can direct your university questions and concerns to the appropriate party. She also handles general questions regarding Online Campus functionality for students, faculty, and facilitators, but she does not provide tech support. She is enrolled in all classes and can be contacted within the course through Online Campus email as it is running. You can also contact her by external email at jensul@bu.edu or call (617) 358-1978.

People Not in Your Online Course

Although you will not normally encounter the following people in your online course, they are central to the program. You may receive emails or phone calls from them, and you should feel free to contact them.

Your Computer Science Department Online Program Coordinator. The online program coordinator administers the academic aspects of the program, including admissions and registration. You can ask questions about the program, registration, course offerings, graduation, or any other program-related topic. The online program coordinator can be reached at metcsol@bu.edu or (617) 353-2566.

Your Computer Science Department Program Manager, Crystal Kelley. Crystal is responsible for administering most aspects of the Computer Science Department. You can reach Crystal at kelleycr@bu.edu or (617) 353-2566.

Andrew Gorlin, Academic Advisor. Reviews requests for transfer credits and waivers. Advises students on which courses to take to meet their career goals. You can reach Andrew at asgorlin@bu.edu, or (617)-353-2566.

Professor Guanglan Zhang, Computer Science Department Chairman. You can reach Professor Zhang at guanglan@bu.edu or at 617-358-2566.

Professor Lou T. Chitkushev, Associate Dean for Academic Affairs, Metropolitan College. Dr. Chitkushev is responsible for the academic programs of Metropolitan College. Contact Professor Chitkushev with any issues that you feel have not been addressed adequately. The customary issue-escalation sequence after your course facilitator and course faculty is Professor Temkin, and then Professor Chitkushev.

Professor Tanya Zlateva, Metropolitan College Dean. Dr. Zlateva is responsible for the quality of all the academic programs at Boston University Metropolitan College.

Disability and Access Services

In accordance with university policy, every effort will be made to accommodate students with respect to speech, hearing, vision, or other disabilities. Any student who may need an accommodation for a documented disability should contact [Disability and Access Services](#) at 617-353-3658 or at access@bu.edu for review and approval of accommodation requests.

Once a student receives their accommodation letter, they must send it to their instructor and/or facilitator each semester. They must also send a copy to their Faculty & Student Support Administrator, who may need to update the course settings to ensure accommodation is in place. Accommodation cannot be implemented if the students do not send their letters.