MET CS 664 Artificial Intelligence
2026 Spring 1 Online Course Syllabus

Instructor

Warren Mansur, mansur@bu.edu

Course Duration

Start: January 13, 2026
End: March 2, 2026

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.
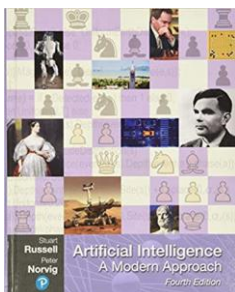
Course Learning Objectives

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

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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
(January 13 – January 19, 2026)

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:
- AI Checkpoint 1 due **Sunday, January 18, at 6:00 AM ET**
- Assignment 1 due **Wednesday, January 21, at 6:00 AM ET**

Live Classrooms:
- Thursday, January 15, from 8:00 PM to 10:00 PM ET

Module 2 Study Guide and Deliverables
(January 20 – January 26, 2026)

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:
- AI Checkpoint 2 due **Sunday, January 25, at 6:00 AM ET**
- Assignment 2 due **Wednesday, January 28, at 6:00 AM ET**

Live Classrooms:
- Thursday, January 22 from 8:00 PM to 10:00 PM ET

Module 3 Study Guide and Deliverables
(January 27 – February 2, 2026)

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:
- AI Checkpoint 3 due **Sunday, February 1, at 6:00 AM ET**
- Assignment 3 due **Wednesday, February 4, at 6:00 AM ET**

Live Classrooms:
- Thursday, January 29, from 8:00 PM to 10:00 PM ET

Module 4 Study Guide and Deliverables
(February 3 – February 9, 2026)

Module Theme: Fuzzy Theory, Reasoning, and Rules

Readings:
- Module 4 online content

Assignments:
- AI Checkpoint 4 due **Sunday, February 8, at 6:00 AM ET**
- Assignment 4 due **Wednesday, February 11, at 6:00 AM ET**

Live Classrooms:
- Thursday, February 5 from 8:00 PM to 10:00 PM ET

Module 5 Study Guide and Deliverables
(February 10 – February 16, 2026)

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:
- AI Checkpoint 5 due **Sunday, February 15, at 6:00 AM ET**
- Assignment 5 due **Wednesday, February 18, at 6:00 AM ET**

Live Classrooms:
- Thursday, February 12, from 8:00 PM to 10:00 PM ET

Module 6 Study Guide and Deliverables
(February 17 – February 23, 2026)

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:
- AI Checkpoint 6 due **Sunday, February 22, at 6:00 AM ET**
- Assignment 6 due **Wednesday, February 25, at 6:00 AM ET**

Live Classrooms:
- Thursday, February 19, from 8:00 PM to 10:00 PM ET

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, February 25, 2026, at 6:00 AM ET to Saturday, February 28, 2026, 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)**

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. **AI Checkpoints**
   - Each AI Checkpoint has you begin the week's assignment while practicing one new prompting technique or best practice with generative AI. You will review the AI's output for gaps, mistakes, missing assumptions, or weak details, then revise your prompt to address those issues. You will also explain what you changed and why it produced a better result.
   - AI Checkpoints are graded out of 10 points with 10=Excellent, 9=Good, 8=Satisfactory, 7=Insufficient, and 6=Fail. 6 is the lowest score possible.
2. **Assignments**
   - Assignments are where you take one of the week's most important topics and turn it into something real. You will provide a hands-on implementation that accounts for real-world constraints. You are required to use AI assistance and to provide the entire transcript with AI. You will be evaluated on the quality of each section, the quality of the submission as a whole, and how well AI is used as a partner.
   - The regular weekly assignments in total are worth 60% of the course grade.
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:
- AI Checkpoints: 10%
- Assignments: 60%
- Proctored Final Exam: 30%

Assignments Rubric
The module assignments are graded according to the three criteria listed below. Individual assignments may contain variations of this form.

Baseline Mastery (60%) - We assess how technically sound, deep, clear, and relevant the work is. We look for the following.

Technical Soundness: Measures how consistent the design and implementation is with the principles taught.
Depth: Measures how well mechanism-level understanding is demonstrated, beyond the surface.
Clarity: Measures how well the content supports a competent reader following the work without guesswork.
Relevance: Measures how well the content stays on task and excludes extraneous material.

Submission Integration (20%) - We assess whether the submission holds together as one stable, realistic solution across all sections, with clear and defensible choices about tradeoffs. We look for the following.

Consistency: Measures whether the same core scenario, entities, goals, and terminology stay aligned across sections and formats, with changes stated clearly enough to follow.
Real-World Plausibility: Measures whether the proposed methods, models, and workflows match realistic tools, data, and constraints for the scenario, avoiding unrealistic shortcuts.
Tradeoffs Coverage: Measures whether the submission identifies scenario-relevant tradeoffs, makes specific choices about them, and briefly explains why those choices fit the scenario.

Human-AI Collaboration (20%) - We assess how effectively AI added substantial value to the work while you remain the decision-maker, based on your transcript, inline comments, and assignment submission. We look for the following.

Substantial Value: Measures how much your AI use adds substantial value to the final solution.
Human Leadership: Measures how clearly you drive the reasoning, structure, and key decisions,

with AI in a supporting role.
Iterative Process: Measures how well you iterate, refine, and evaluate AI output (including correcting it) rather than accepting first-pass responses.

> **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. Discussion 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. Days/times are available in the Study Guide section of the syllabus.

  - 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. Otherwise, 5 points will be deducted from the overall assignment score per day late. Submissions will not be graded if they are submitted beyond 4 days after the deadline, 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 your submissions. 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.