

CSC 180: ADVANCED ARTIFICIAL INTELLIGENCE

In Workflow

1. CSC Committee Chair (abeer.abdelkhaleq@csus.edu)
2. CSC Chair (jouyang@csus.edu)
3. ECS College Committee Chair (tongren.zhu@csus.edu)
4. ECS Dean (arad@csus.edu)
5. Academic Services (catalog@csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Dean of Undergraduate and Graduate (Dean of Undergraduate and Graduate@csus.edu)
8. Catalog Editor (catalog@csus.edu)
9. Registrar's Office (k.mcfarland@csus.edu)
10. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. 2026-05-07T16:06:07Z
Abeer Abdel Khaleq (abeer.abdelkhaleq): Approved for CSC Committee Chair
2. 2026-05-07T16:16:17Z
Jinsong Ouyang (jouyang): Approved for CSC Chair
3. 2026-05-08T18:53:51Z
Tongren Zhu (tongren.zhu): Approved for ECS College Committee Chair
4. 2026-05-08T23:15:49Z
Behnam Arad (arad): Approved for ECS Dean

Date Submitted: 2026-05-06T22:18:30Z

Viewing: CSC 180 : Advanced Artificial Intelligence

Last edit: 2026-05-08T18:53:12Z

Changes proposed by: Haiquan Chen (219700833)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Haiquan Chen	haiquan.chen@csus.edu	916-278-6087

Catalog Title:

Advanced Artificial Intelligence

Class Schedule Title:

Advanced AI

Academic Group: (College)

ECS - Engineering & Computer Science

Academic Organization: (Department)

Computer Science

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Fall 2027 (2027/2028 Catalog)

Subject Area: (prefix)

CSC - Computer Science

Catalog Number: (course number)

180

Course ID: (For administrative use only.)

112246

Units:

3

Is the ONLY purpose of this change to update the term typically offered or the enforcement of existing requisites at registration?

No

In what term(s) will this course typically be offered?

Fall, Spring

Does this course require a room for its final exam?

Yes, final exam requires a room

This course complies with the credit hour policy:

Yes

Justification for course proposal:

With the new core CSC136 "Intro to AI" being proposed, CSC180 has been extensively modernized to fully focus on the latest deep learning topics in the AI field to reflect best teaching practices and current industry demands, producing career-ready graduates pursuing AI-related careers.

Course Description: (Not to exceed 90 words and language should conform to catalog copy.)

Theoretical foundations, methodologies, and applications for modern artificial intelligence techniques. Topics include feed-forward neural networks, convolutional neural networks, recurrent neural networks, and transformers for computer vision, natural language understanding, and sequence modeling. Discriminative models and generative models. Introduction to large language models. Transfer learning. Design, implementation, and evaluation of systems to solve a variety of artificial intelligence problems.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Is this course designated as Curricular Community Engaged Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

CSC 130, CSC 136, and ENGR 115 or STAT 50; CSC 136 may be taken concurrently.

Prerequisites Enforced at Registration?

Yes

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Discussion

Discussion Classification

CS#04 - Lecture /Recitation (K-factor=1 WTU per unit)

Discussion Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes and Assessment Strategies:

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	Describe the concepts and algorithms in supervised and unsupervised learning.	Assignments, exams
2	Characterize the modern deep learning architectures for real-world applications.	Assignments, exams
3	Differentiate between discriminative models and generative models.	Assignments, exams
4	Describe the basic methodologies for transfer learning	Assignments, exams
5	Apply contemporary programming frameworks to design, implement, and evaluate various artificial intelligence systems for real-world applications.	Projects

Attach a list of the required/recommended course readings and activities:

course readings and activities.docx

Is this course required in a degree program (major, minor, graduate degree, certificate?)

No

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals**Undergraduate Learning Goals:**

Competence in the disciplines
Intellectual and practical skills

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

GE Course and GE Goal(s)

Is this a General Education (GE) course or is it being considered for GE?

No

Please attach any additional files not requested above:

CSC180_LongVersion.docx

CSC180-sample-syllabus.docx

Key: 1061