COURSE SYLLABUS

Course Prefix, Number, and Title
DAD 492 – AI Music

Credits
3

University Name
Dakota State University

Academic Term/Year
Spring 2025

Last date to Drop and receive 100% refund
1/22/25

Last date to Withdraw and earn a grade of 'W'
4/7/25

Course Meeting Time and Location
Tuesday / Thursday 1:00 PM – 2:15 PM TCB 209

Instructor Information

Name
Tate Carson

Office
TCB 305

Phone Number(s)
605-681-6183

Email Address
Tate.carson@dsu.edu

Office Hours
MWF 10 am – 12 pm, TR 2:30 – 3:30 pm

Approved Course Description

Catalog Description
Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

Additional Course Information

DAD 492: AI Music explores how artificial intelligence intersects with music creation, examining questions of creativity, curiosity, and connection. The course balances practical projects—such as building generative music systems and interactive AI tools—with critical discussions on AI's aesthetic, ethical, and social dimensions in the arts. Students will reflect on AI's potential to augment human creativity while grappling with its limitations, such as its lack of agency and curiosity. Through hands-on work and philosophical inquiry, the course challenges students to consider how AI can augment, rather than replace, human expression.

Prerequisites

Technology Skills

Ability to use a computer

Student Learning Outcomes

- Understand the role of AI in music creation
- Develop and implement AI music systems
- Critically evaluate AI-generated music and art
- Analyze the ethical implications of AI in music

Course Materials

Required Textbook(s)

Mimi Onuoha and Mother Cyborg. 2018. *A People's Guide to AI*. Allied Media Projects. https://alliedmedia.org/resources/peoples-guide-to-ai.

Nao Tokui. 2023. *Surfing Human Creativity with AI -- A User's Guide*. Qosmo Inc. https://qosmo.jp/en/publication/naotokui-book.

Required Supplementary Materials

Christopher Manning. 2022. "Artificial Intelligence Definitions." Stanford University Human-Centered Artificial Intelligence. https://hai.stanford.edu/sites/default/files/2023-03/AI-Key-Terms-Glossary-Definition.pdf.

Brainard, Lindsay. 2023. "The Curious Case of Uncurious Creation." *Inquiry*, September, 1–31. https://doi.org/10.1080/0020174X.2023.2261503. Download: Preprint

Will, Joseph. 2024. "Rage against the Machine: Copyright Infringement in AI-Generated Music."

Optional Materials

See my Zotero Library on AI Music Sources for more readings.

Course Delivery and Instructional Methods

This is a Discussion/Recitation course. Topics are explored in this course through short lectures, class discussions, instructor-guided activities, individual student projects, and collaborative work.

Communication and Feedback

Preferred Email Contact Method
Tate.carson@dsu.edu

Email Response Time
Within 48 hours when class is in session.

Feedback on Assignments
Within one week of the assignment due date.

Evaluation Procedures

Assessments
Attendance – 15%
Etudes (3 total) – 30%
Reflections (3 total) - 15%
Final Project – 40% (Proposal, Project, Presentation)

Final Examination
Thursday, May 8th, 1:00 PM – 3:00 PM

Performance Standards and Grading Policy
90% and above = A
80%-89% = B
70%-79% = C
60% - 69% = D
59% or below = F

Tentative Course Outline and Schedule

Week	Date	Topics, Assignments, Quizzes, Tests, Deadlines
1	1/13	**Introduction to AI and Creativity**: Overview of course themes, Brainard's creativity framework (novelty, value, agency, curiosity). **Reading**: Brainard's *Introduction* and *Section 2.1*. **Discussion Prompt**: "Does AI creativity challenge the human role in the arts?"
2	1/20	**Foundations of AI in Music**: GOFAI techniques (rule-based systems, algorithmic composition). Analyze algorithmic compositions for novelty. **Reading**: Brainard's *Section 2.2* (Novelty). **Assignment**: Etude 1 (word2vec Poetry). **No Class**: 1/21 (Professional Development).

Week	Date	Topics, Assignments, Quizzes, Tests, Deadlines
3	1/27	**Hands-On with word2vec**: Create generative poetry. Evaluate epistemic value. **Reading**: Brainard's *Section 2.3* (Value). **Reflection 1**: "What is creativity in AI systems?" **Etude 1 Due**: 1/26.
4	2/3	**Machine Learning for Music**: MIR techniques (k-NN, SVM, HMM), feature extraction, and classification. **Key Concepts**: Agency in creative tasks. **Reading**: Brainard's *Section 2.4* (Agency). **Assignment**: Etude 2 (Genre Classifier and Audio Mosaic).
5	2/10	**Audio Feature Extraction and Classification**: Extracting timbre, pitch, and rhythm features. **Debate**: "Does automation devalue human musicianship?" **Reading**: Will, Joseph. 2024. "Rage against the Machine: Copyright Infringement in AI-Generated Music."
6	2/17	**Creative Audio Manipulation**: Audio mosaics and collage-making techniques. **Etude 2 Due**: 2/16. **Class Presentations**: Mosaic outputs.
7	2/24	**Interactive Machine Learning and HCI**: Wekinator and humans-in-the-loop systems. Analyze human agency in collaborative systems. **Reading**: Brainard's *Section 2.5* (Curiosity). **Assignment**: Etude 3 (Wekinator Interactive Toys).
8	3/3	**Designing Interactive AI Systems**: Build Wekinator-based prototypes. **Reflection 2**: " What are the ethical implications of AI-generated music?"
9	3/10	**Spring Break – No Class**
10	3/17	**AI and Deep Learning for Music**: RNNs, GANs, VAEs, transformers. Explore culturally specific datasets and ethical guidelines. **Etude 3 Due**: 3/19. **No Class**: 3/20 (MoxSonic).
11	3/24	**Final Project Introduction**: "Escaping the Turing Trap"—conceptualizing systems for human-AI collaboration. Begin brainstorming and prototyping.

Week	Date	Topics, Assignments, Quizzes, Tests, Deadlines
		Reading: Chapter 5 – Nao Tokui, *Surfing Human Creativity with AI -- A User's Guide* **Reflection 3:** How can human-AI collaboration enhance creativity?
12	3/31	**System Design for AI and Music**: Discriminative vs. generative systems; inclusive and ethical design principles. Draft project proposals addressing ethical challenges.
13	4/7	**Progress Check-In**: Peer feedback and collaborative critique on prototypes. Discuss balancing automation and human interaction.
14	3414	**Final Project Work**: Refinement and implementation of final projects. In-class work sessions, one-on-one consultations, peer reviews.
15	4/21	**Final Project Work**: Refinement and implementation of final projects. In-class work sessions, one-on-one consultations, peer reviews.
16	4/28	**Final Project Work**: Refinement and implementation of final projects. In-class work sessions, one-on-one consultations, peer reviews.

Student Success Services and Supports

ADA Accommodations

Dakota State University strives to ensure that physical resources, as well as information and communication technologies, are reasonably accessible to users to provide equal access to all. If you encounter any accessibility issues, you are encouraged to immediately contact the instructor of the course and Dakota State University's Office of Disability Services, which will work to resolve the issue as quickly as possible.

DSU's Office of Disability Services is located in the Learning Engagement Center and can be contacted by calling 605-256-5121 or emailing dsu-ada@dsu.edu. Students seeking ADA accommodations (such as non-standard note taking or extended time and/or a quiet space taking exams and quizzes) can access the DSU website https://dsu.edu/student-life/disability-services/index.html for additional information and the link to the Disability Services Request Form. You will need to provide documentation of your disability and the ADA Coordinator must confirm the need before officially authorizing accommodations.

DSU Knowledge Base

The DSU Knowledge Base contains links and resources to help students by providing information about the following topics: User Accounts & Passwords, Academic Tools & Resources, Software & Apps Support, WiFi & Network Access, Campus Emergency Alert System, Campus Printing, IT Security & Safe Computing, and the Support Desk (which is there to help both on and off-campus students). The Knowledge Base can be accessed through the link below:

- DSU Knowledge Base

D2L Support for Students

The D2L Support for Students site is designed to provide DSU students a D2L support resource center that contains user guides, tutorials, and tips for using the D2L learning environment. The D2L Support for Students site can be accessed through the link below:

- [DSU D2L Support Resources for Students](#)

Classroom Policies

Attendance and Make-up Policy

Students are expected to attend all scheduled classes. After **three** absences, 10 points will be deducted from the attendance grade for each additional absence.

Late work will only be accepted with a documented excuse. Students may redo work they received an undesirable grade on once, but only if they turned in something by the original due date. The deadline for redoing work is a week after the original due date. After this time, no late work will be accepted.

DSU Policies

Complaint Procedure

Dakota State University seeks to resolve student concerns and complaints in a fair and prompt manner. Students may file a complaint using the [DSU Concerns and Feedback form](#). SARA complaints from out-of-state students may be filed using the procedures noted [here](#).

Grade Appeal Policy

If a student believes the final grade assigned in a course was inappropriate, he/she may appeal that grade by filing a formal grade appeal within 15 days of the start of the next academic session. Please see the DSU policy on [Appealing Academic and Administrative Decisions](#) for the required process and form to appeal a final grade.

Student Verification Statement and Proctoring Policy

Federal law requires that universities verify the identity of students when course materials and/or course assessment activities are conducted either partially or entirely online. A student's Desire2Learn (D2L) login and password are intended to provide the student with secure access to course materials and are also intended to help the university meet this federal mandate. Some DSU Faculty also require the use of a proctor for exams in distance-delivered (Internet) courses and this requirement provides a second level of student identity verification. Students are responsible for any proctoring fees, if applicable. Finally, an instructor who uses web conferencing technology may require students to use a webcam during exams as another means of student identity verification through voice and visual recognition.

<< For online courses, include the verification method used for the course (i.e., proctoring, portfolio, oral exam, student observation, etc.) >>

South Dakota Board of Regents Policy Statements

Freedom in Learning Statement

Under Board of Regents and Regental Institutions policy, student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Discussion and debate are critical to education and professional

development. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. While the exploration of controversial topics may be an important component of meeting the student learning outcomes in a course, no student will be compelled or directed to personally affirm, adopt, or adhere to any divisive concepts (as defined in SDCL 13-1-67). Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact their home institution to initiate a review of the evaluation.

ADA Statement

The Regental Institutions strive to ensure that physical resources, as well as information and communication technologies, are reasonably accessible to users to provide equal access to all. If you encounter any accessibility issues, you are encouraged to immediately contact the instructor of the course and the Office of Disability Services, which will work to resolve the issue as quickly as possible. Please note: if your home institution is not the institution you are enrolled at for a course (host institution), then you should contact your home institution's Office of Disability services. The disability services at the home and host institution will work together to ensure your request is evaluated and responded to in a timely manner.

Academic Dishonesty and Misconduct

Cheating and other forms of academic dishonesty and misconduct run contrary to the purposes of higher education and will not be tolerated. Academic dishonesty includes, but is not limited to, plagiarism, copying answers or work done by another student (either on an exam or an assignment), allowing another student to copy from you, and using unauthorized materials during an exam. The Regental Institution's policy and procedures on cheating and academic dishonesty can be found in your home institution's Student Handbook and the governing Board of Regents policies can be found in BOR Policy 2.9.2 and BOR Policy 3.4.1. The consequences for cheating and academic dishonesty are outlined in policy.

Acceptable Use of Technology

Acceptable Use of Information Technology Resources: While Regental Institutions strive to provide access to computer labs and other technology, it is the student's responsibility to ensure adequate access to the technology required for a course. This may include access to a computer (not Chromebooks, iPads, etc.), webcam, internet, adequate bandwidth, etc. While utilizing any of the information technology systems students, faculty and staff should observe all relevant laws, regulations, BOR Policy 7.1, and any institutional procedural requirements.

Emergency Alert Communication

In the event of an emergency arising on campus under BOR Policy 7.3, your Regental Home Institution will notify the campus community via the emergency alert system. It is the responsibility of the student to ensure that their information is updated in the emergency alert system. The student's cell phone will be automatically inserted if available and if not, their email address is loaded. Students can at any time update their information the student alert system.