



—
Steven W. Cheung
Chair, Assembly of the
Academic Senate
Faculty Representative,
UC Board of Regents

Academic Senate

Office of the President
1111 Franklin Street
Oakland, CA 94607

senate.universityofcalifornia.edu

—
CAMPUSES
Berkeley
Davis
Irvine
UCLA
Merced
Riverside
San Diego
San Francisco
Santa Barbara
Santa Cruz

MEDICAL CENTERS
Davis
Irvine
UCLA
San Diego
San Francisco

NATIONAL LABORATORIES
Lawrence Berkeley
Lawrence Livermore
Los Alamos

December 19, 2024

Katherine S. Newman
Provost and Executive Vice President
University of California

Re: Approval of Master in Education Sciences with a Concentration in
Artificial Intelligence and Learning Analytics at UCI

Dear Provost Newman:

In accordance with the Universitywide Review Processes For Academic Programs, Units, and Research Units (the “Compendium”), and on the recommendation of CCGA, the Academic Council has approved UC Irvine’s proposal to establish a Master in Education Sciences (MES) with an Concentration in Artificial Intelligence and Learning Analytics self-supporting graduate and professional degree program.

Because this is a new degree title, and the Assembly of the Academic Senate is not meeting within 30 days of CCGA’s approval, Council must approve the program per Senate Bylaw 125.B.7.

I am enclosing CCGA’s report on its review of the new program, and respectfully request that your office complete the process of obtaining the President’s approval.

Thank you for the opportunity to opine. Please do not hesitate to contact me if you have any questions.

Sincerely,

Steven W. Cheung
Chair, Academic Council

cc: Academic Council
Institutional Research and Academic Planning Analyst Procello
UCI Senate Executive Director Kim
Executive Director Lin



Academic Senate

Office of the President
1111 Franklin Street
Oakland, CA 94607

senate.universityofcalifornia.edu

COORDINATING COMMITTEE ON GRADUATE AFFAIRS

James Bisley, Chair
jbisley@mednet.ucla.edu

December 12, 2024

CAMPUSES

- [Berkeley](#)
- [Davis](#)
- [Irvine](#)
- [UCLA](#)
- [Merced](#)
- [Riverside](#)
- [San Diego](#)
- [San Francisco](#)
- [Santa Barbara](#)
- [Santa Cruz](#)

MEDICAL CENTERS

- [Davis](#)
- [Irvine](#)
- [UCLA](#)
- [San Diego](#)
- [San Francisco](#)

NATIONAL LABORATORIES

- [Lawrence Berkeley](#)
- [Lawrence Livermore](#)
- [Los Alamos](#)

Steven W. Cheung
Chair, Academic Senate

Dear Chair Cheung,

On December 4, CCGA met and reviewed a proposal for a self-supporting Master of Education Sciences (MES) with a Concentration in Artificial Intelligence and Learning Analytics from the Irvine division. After discussion, the proposal was approved 8-0-1.

The MES program will offer high-performing graduates and working professionals the opportunity for efficient and effective graduate-level training in the emerging discipline of AI and learning analytics. This will be a 12-month, part-time program that will begin with one course at the end of summer, followed by two courses each in fall, winter, spring, and summer, and culminating in a capstone and graduation event. This will be offered as a fully online program, but students who are able to will be strongly encouraged to attend the first week of courses and final culminating event in-person at UCI.

The program will be staffed by faculty in the School of Education and will focus on both theoretical and applied knowledge in using advanced tools to analyze learning. An industry and professional advisory board will assist in developing and promoting career opportunities for graduates in fields such as education, the business sector, and nongovernmental organizations. The majority of students are expected to come from the United States, with a smaller group of international students.

CCGA secured five reviewers for this proposal. Three were very positive, one identified some minor weaknesses, and one was very skeptical and identified two serious weaknesses in the proposal. These are detailed in the Lead Reviewer’s report, attached. The proposers were provided with the feedback and addressed the concerns in a redline version of the proposal

that was provided to (and approved by) CCGA. That proposal is also attached.

As documented in its report (attached), UCPB was impressed with the revised proposal and budget. It recommended that CCGA approve this proposal.

As you know, CCGA's approval is the last stop of the Academic Senate side of the systemwide review and approval process except when the new degree title must be approved by the Academic Council. I submit this for your review; please do not hesitate to contact me if you have questions regarding the proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "Bisley", with a stylized flourish at the end.

James Bisley
Chair, CCGA

cc: Academic Senate Vice Chair Palazoglu
Academic Senate Executive Director Lin
Academic Senate Assistant Director LaBriola
CCGA Members
Academic Planning and Research Analyst Procello
UCI Dean of the Graduate Division Smith
UCI Senate Executive Director Kim
UCI Senate Associate Director Nguyen

To: Coordinating Committee on Graduate Affairs
From: Sarita See, Lead Reviewer (UC Riverside Graduate Council Vice Chair)
Date: December 10, 2024
Re: Report on proposal for creation of a new Master of Education Sciences with a Concentration in Artificial Intelligence and Learning Analytics, a self-supporting program at UC Irvine

Summary

The Coordinating Committee on Graduate Affairs (CCGA) approves the proposal by UC Irvine's (UCI) School of Education Sciences to establish a new Master of Education Sciences (MES) with a Concentration in Artificial Intelligence (AI) and Learning Analytics, which is a self-supporting graduate professional degree program (SSGPDP). The program focuses on theoretical and applied knowledge in using advanced tools to analyze learning. The curriculum consists of a three-pronged approach: educational theory; data science; and data visualization, communication and storytelling. The program emphasizes practical activities in data analytics, statistics, and programming. The program consists of ten courses and would be housed in the School of Education. The ten courses would be offered in five quarters of a graduate program that is primarily online and asynchronous and that culminates in a capstone project completed in teams. The program will be guided by a voluntary professional board comprising industry experts, academics, and practitioners.

Background

CCGA received a formal proposal on April 3, 2024, from UCI to establish a new MES with a Concentration in Learning Analytics in the School of Education, which is self-supporting and fully online and asynchronous. The program aims to create a graduate-level professional-oriented terminal degree program in the emerging discipline of learning analytics. It is designed to prepare graduates to enter careers in the emergent field of learning analytics and educational data science. The faculty have a strong core of faculty in learning analytics and data science from multiple disciplinary backgrounds, which are suitable for the interdisciplinary nature of this growing field, such as computer science, cognitive science, applied linguistics, sociology, psychology, and education. All the faculty have substantial expertise in pedagogy, some with special expertise in online and digital learning. Note that the original proposal was for a Concentration in Learning Analytics and, after the review process, it was modified to a Concentration in AI and Learning Analytics.

Materials and Reviews

CCGA and external reviewers looked at one document package (191 pages). As required for all SSGPDP proposals, UCPB separately and simultaneously studied the proposal. The main proposal (46 pages) described the program, projected need, the faculty, courses, academic and administrative resources, graduate student support, governance, changes in Senate regulations,



and diversity. The appendices (164 pages) contained letters of support from participating faculty, UCI administrators, community affiliates, and program directors from other UC campuses; the diversity plan; the School's bylaws; and the budget, cost analysis, and market research report.

Reviews were solicited over a period of three months from eight academics from within and outside of the UC system. Five individuals agreed and they were provided with a PDF of the document package. CCGA then looked at the proposal authors' response to the comments from the reviewers.

Reviewers have expertise in key areas and represent a range of ranks -- full professor, associate professor, assistant professor, associate professor of teaching -- which is appropriate for an emergent discipline. Two are from within the UC system; and three from outside.

Reviewer 1 – outside UC system
Associate Professor of Learning Analytics
PhD in Human-Computer Interaction and Educational Data Mining

Reviewer 2 – outside UC system
Assistant Professor of Learning Analytics
PhD in Engineering (Computer Sciences)

Reviewer 3 – outside UC system
Professor of Technology and Education
PhD in Learning Sciences

Reviewer 4 – inside UC system
Associate Professor of Teaching in School of Education
PhD in Educational Psychology

Reviewer 5 – inside UC system
Professor of Education
PhD in Education

Reviewers were asked to comment on these four topics: quality and academic rigor of the program; adequacy of the size and expertise of faculty to administer the program; adequacy of the facilities and budgets; and applicant pool and placement prospects for the graduates.

Three reviewers were very positive. One was overall encouraging but saw some weaknesses. One reviewer was very skeptical and identified two serious weaknesses in the proposal — one substantial and the other structural.

The two main issues were:

1. Pedagogical weakness of an entirely online, asynchronous program with only optional in-person or residential components and minimal interaction with the expert faculty, with special concern about coursework during the summer;
2. Potential for the adverse impact on the state-supported program because faculty labor will be diverted to the development of an online program, and the proposal did not provide for increasing its staff FTE.

Reviewers also commented on the following topics that needed clarification, justification, or correction:

- The thematic of “AI in education” could be made more prominent (Reviewer 1); and more substantially addressed as part of the curriculum (Reviewer 2).
- Enhance or enlarge the capstone course, which currently is only two credits indicating truncated, less substantial projects. Is there a way to give students the opportunity to pursue more research (Reviewer 1); or more options to pursue practical projects (Reviewer 2)? Note that Reviewer 2 suggests incorporating elements and skills of data visualization and communication earlier on in the program.
- Develop a more robust and convincing evaluation and assessment plan for monitoring student progress and the program’s learning outcomes (Reviewer 2, Reviewer 3, Reviewer 4).
- Pay greater attention to the impact of learning analytics (Reviewer 3).
- Address more effectively how the program will deal with the uneven skill sets of incoming students (Reviewer 3).
- Justify and/or remedy the pedagogical consequences of the apparent lack of any direct interaction between students and faculty throughout the online, asynchronous program (Reviewer 4, Reviewer 5).
- Address how the program will offer high-quality summer courses. Four of the ten courses will be offered during the summer and traditionally it is difficult to attract faculty interest to teach during the summer. To maintain a high-quality educational experience, the faculty should teach these summer courses rather than rely on less expert graduate students or Unit 18 lecturers (Reviewer 4).
- Expand the number of categories of selection for members of the proposed voluntary board IPAB (Reviewer 4).
- Strengthen the incentives for students to attend events in-person. Currently, the program gives students the option to attend events in-person during the first week of classes; and the option to participate in-person in the capstone project presentation. How could students be further incentivized and encouraged? (Reviewer 4).

- Address, justify, and/or remedy the perception that the program offers an approach to learning analytics no longer founded in the fundamentals of education science, e.g. a “generic data mining that happens to use education data” and the “complete lack of attention to and training in education, education practice, learning, assessment or measurement,” with the knock-on effects of producing graduates who would be disadvantaged when they apply for jobs (Reviewer 5).

In its revisions, the proposal authors effectively and thoroughly addressed all of the above issues to CCGA’s satisfaction. The most important changes included: increasing faculty-student interaction by adding synchronous elements and requiring an in-person event during the first week of class; enhancing the evaluation and assessment plan; reducing the number of courses required during the summer; and more realistically allocating budget items for the development of online instruction. At this stage, the authors also changed the concentration’s name from “Concentration in Learning Analytics” to “Concentration in Artificial Intelligence and Learning Analytics.” The authors also proposed changes to the budget, which necessitated a second review by UCPB.

CCGA Recommendation

The majority of the external reviews were positive. Four of the five reviewers look forward to the establishment of the program. The proposal authors’ revisions addressed all of the reviewers’ concerns. CCGA considers the overall proposal to be well-designed and the revisions thorough.

For the program’s third-year review, CCGA recommends keeping an eye on the following issues:

- Impact on the state-supported program, especially any significantly uneven distribution of teaching and service burden on the faculty, e.g. too much time and resources directed away from the state-supported program and toward the self-supporting program.
- More clarity about the program’s target demographic, e.g. working professionals or recently graduated BAs.



Academic Senate

Office of the President
1111 Franklin Street
Oakland, CA 94607

senate.universityofcalifornia.edu

UNIVERSITY COMMITTEE ON PLANNING AND BUDGET (UCPB)
Tim Groeling
groeling@comm.ucla.edu

December 9, 2024

CAMPUSES

- [Berkeley](#)
- [Davis](#)
- [Irvine](#)
- [UCLA](#)
- [Merced](#)
- [Riverside](#)
- [San Diego](#)
- [San Francisco](#)
- [Santa Barbara](#)
- [Santa Cruz](#)

MEDICAL CENTERS

- [Davis](#)
- [Irvine](#)
- [UCLA](#)
- [San Diego](#)
- [San Francisco](#)

NATIONAL LABORATORIES

- [Lawrence Berkeley](#)
- [Lawrence Livermore](#)
- [Los Alamos](#)

James Bisley
Chair, CCGA

RE: Master of Educational Sciences (MES)

Dear James,

UCPB is pleased to share the results of our discussion the UC Irvine School of Education’s revised proposal for a self-supporting Master of Educational Sciences (MES) degree, with a Concentration in Artificial Intelligence and Learning Analytics.

UCPB reviewed the original proposal last summer and noted that it appeared “to be an innovative program in a rapidly developing new area.” However, at that time the committee had concerns about limitations in the market analysis and target population for the degree. An additional concern was the expected impact on state-supported programs since the original plan required faculty time create high-quality online courses. Finally, the program had faculty with positions with the Society for Learning Analytics Research (SoLAR)—the main professional body for learning analytics scholars. UCPB were concerned that the closeness of the faculty to the Society might create some potential conflicts of interest.

In the revised proposal, the School of Education increased total tuition from \$47,200 to \$49,500, which would then rise by 7.6 percent in year four. The increase—keeping the same target enrollment—will be used in ways that address some of UCPB’s prior concerns. To address our concern about the diversion of faculty course development time, the revised proposal funds the School of Education’s Marketing and Communications team to produce the planned online instruction materials, reducing the burden on faculty. In addition, the additional tuition will fund the pre-program hiring of a half time staff position focused on student recruitment. Despite the increased tuition, the program remains within suggested price

bands. The School of Education will provide starting funds, and projected revenue is approximately \$50,000 more than the previous proposal.

Additional market research for the new proposal was not conducted, but the campus did make efforts to more clearly articulate the value the extensive new training opportunities the reworked curriculum offered. The two improvements that the committee felt better communicated the value of the degree were the substantial focus on AI and clarified approaches to data and data mining related to education in many different forms.

The program has exceptional return to aid, with a combination of need-based scholarships and teaching assistantships, paying full tuition and fees. In addition, the program plans to use program revenues to provide fellowship support for students in the School of Education's Ph.D. and MAT programs. The generous aid as well as the focus on student recruitment should enable the program to meet its diversity goals. Once a diverse cohort enrolls, the program has also developed plans to support students coming with a varied range of preparation in the field. UCPB's concerns that an online degree would preclude meaningful interaction with UC faculty were addressed by increased contact with faculty, in-person events to build cohesion, live faculty office hours, hybrid courses offering both live and asynchronous options, quarterly Zoom gatherings, and direct faculty supervision during the capstone project.

In addition, the organizers have committed to evaluating the program as an example of a fully online asynchronous model. UCPB recommends that the three-year review include a careful analysis of faculty connection with SoLAR and any indications of conflict of interest for those faculty holding positions in the professional body.

UCPB appreciated the efforts made to address their previous concerns and believes that the changes will increase the utility and benefit of this program for future students. The committee is pleased to recommend that CCGA approve the revised proposal.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tim Groeling', written over a white background.

Tim Groeling
Chair, UCPB

cc: UCPB



Sarita See, Professor
Coordinating Committee on Graduate Affairs, UC Academic Senate
900 University Avenue
Riverside, CA 92521

October 31, 2024

Dear Dr. See and Committee,

We would like to express our gratitude for your thoughtful consideration of our proposal and the valuable feedback provided. In response, we have made targeted enhancements to the program, addressing each comment in line below and providing a redlined proposal to highlight all changes. Key adjustments include a highlighted the AI-focus, strengthened evaluation and assessment plan to more effectively monitor student progress and learning outcomes, an expanded capstone course with a more substantial 4-credit structure, and increased student-faculty engagement opportunities, including regular faculty office hours, live course components, and quarterly “coffee chats.” These improvements ensure a rigorous, supportive, and engaging experience for our students, fully aligning with the program’s high standards.

Thank you for your support and guidance throughout this process.

Sincerely,

Nia Nixon
Mark Warschauer



MES AI-LA Proposal Response

Overall, the two most glaring issues at this stage are:

1. Pedagogical weakness of an entirely online, asynchronous program with only optional in-person or residential components and minimal interaction with the expert faculty, with special concern about coursework during the summer;

Response: Thank you for the valuable suggestions regarding increased faculty-student interaction in our online Master's program. We agree that providing students with direct faculty engagement is crucial, especially in an asynchronous program where schedules and geographical distance might limit opportunities for real-time connection.

We have addressed this concern on page 37 of the revised proposal. Specifically, we will implement the following enhancements to ensure that students receive more opportunities for meaningful faculty interaction throughout their studies:

- A. **Faculty Office Hours:** We will require faculty instructors to host live, online office hours on a regular basis, providing students with opportunities to meet directly with faculty to discuss course content, ask questions, and receive guidance on their projects and research. This ensures that students can have consistent access to faculty support.
- B. **Live Course Component:** Each course will include at least one live element that faculty can tailor based on their pedagogical approach. This could include hosting and monitoring a live chat room once a week on the Canvas platform or holding live Q&A sessions. This flexibility will allow faculty to integrate real-time interaction in a way that aligns with the course content while still maintaining the overall asynchronous structure.
- C. **Quarterly "Coffee Chats":** In addition to office hours, we will host quarterly informal "coffee chats" on Zoom, where students can engage with faculty in a less structured environment. These sessions will foster mentorship opportunities, build a sense of community, and allow for discussions about both course material and professional development.
- D. **Faculty Mentorship in Capstone Projects:** As students approach the culminating project, we will ensure that faculty provide direct mentorship, offering more



structured interactions, feedback, and guidance during the capstone process. This will create a stronger connection between students and faculty, particularly as students work through complex projects.

These steps will help maintain the flexible, asynchronous nature of the program while ensuring that students can benefit from regular faculty interaction and mentorship. We believe these changes will enrich the learning experience and provide the support students need to succeed academically and professionally. Additionally, these changes will be inline with other online programs at UCI, such as the MAS.

2. Potential for the adverse impact on the state-supported program because faculty labor will be diverted to the development of an online program, and it looks like the program is not increasing its staff FTE.

Response: As a School of Education, all the faculty have substantial expertise in pedagogy, and the program also includes some of the world's experts on online and digital learning, so we expect that this will be an easier lift than a similar program in other departments on campus (starting on p. 29) for an updated listing of faculty expertise in this area). However, to better address this issue, we are re-arranging the budget to include (a) \$125,000 in funding to the School of Education Marketing and Communications team to help with production of the online instructional materials, and (b) funding for a half-time staff person to assist with student recruitment before the program begins (note: this position is already funded once the program begins). These two changes will allow us to develop and recruit for a high quality online program without unduly detracting from our state-supported programs. We are increasing the tuition a small amount to pay for this (from \$47,200 to \$49,500). We believe that the program will maintain its marketability in spite of the slightly higher cost due to the increased focus on AI in the program, which will make it one of the first such programs in the country. (See attached budget.)

Please also find below several comments and points which might need additional clarification and justification, listed in no particular order of priority:

- The thematic of "AI in education" could be made more prominent (Reviewer 1); and more substantially addressed as part of the curriculum (Reviewer 2).



Response: We have integrated significant AI components into our proposal to better reflect the AI emphasis already embedded within the curriculum, recognizing that the domain of education technology has shifted rapidly in recent years, particularly with the emergence of generative AI like ChatGPT and related models. This shift presents a unique opportunity for UCI, given that we arguably have one of the strongest faculty clusters in the country working on AI in education.

In response to the external reviewer feedback, we have updated our program title to **Master of Educational Science: Concentration in Artificial Intelligence and Learning Analytics** to better reflect the AI emphasis already embedded within the curriculum. We have added two new courses focused on AI in Education and also revised other courses, such as Foundations of Learning Analytics, to include more focus on AI and other program changes (see last bullet point below).

By revising the program's title and course offerings, we are positioning UCI and the UC system at the forefront of this rapidly evolving field. This change not only capitalizes on growing interest in AI in education but also strengthens our program's appeal to prospective students and ensures UCI remains a leader in the field of AI and educational data science. (For an overview of the revised course schedule see figure on p. 23).

- Enhance or enlarge the capstone course, which currently is only two credits indicating truncated, less substantial projects. Is there a way to give students the opportunity to pursue more research (Reviewer 1); or more options to pursue practical projects (Reviewer 2)? Note that Reviewer 2 suggests incorporating elements and skills of data visualization and communication earlier on in the program.

Response: Thank you for the feedback regarding the capstone and the timing of the data visualization course. We have made adjustments to the proposal to address this concern as follows:

First, we have enhanced the capstone course, increasing it to 4 credits to allow for more substantial, in-depth projects. This enhancement will give students the opportunity to pursue either more rigorous research-oriented projects or practical, applied projects in alignment with their career goals. This adjustment will provide more time and resources for students to engage in meaningful, comprehensive work.



Additionally, based on Reviewer 2's suggestion, we have moved the Data Visualization and Communication course earlier in the program. This will equip students with essential visualization and communication skills earlier in their studies, ensuring they are better prepared for both the research and practical components of the capstone.

- Develop a more robust and convincing evaluation and assessment plan for monitoring student progress and the program's learning outcomes (Reviewer 2, Reviewer 3, Reviewer 4).

Response: We have significantly enhanced the program's evaluation and assessment plan to ensure that both student progress and program learning outcomes are effectively monitored (starting on p. 14 in revised proposal). First, a comprehensive quarterly student questionnaire will be developed in consultation with the Division of Teaching Excellence and Innovation to gather ongoing feedback and measure progress against learning outcomes. Additionally, the Program Director will hold open discussions with students every quarter to capture real-time feedback and address concerns.

Each course will include a learning outcomes report, which instructors will complete, documenting how specific outcomes were covered and evidenced through student work. These reports, along with student capstone project reviews, will feed into the program's annual review, conducted by the Program Steering Committee. The steering committee will also oversee an assessment of capstone projects to ensure alignment with learning outcomes, and the Industry and Professional Advisory Board (IPAB) will provide annual feedback on the program's alignment with industry needs. Finally, periodic satisfaction surveys and a five-year post-graduation survey will track student success and job placement outcomes over time. These measures provide a robust and continuous assessment process, ensuring that the program remains aligned with its objectives and student needs.

- Pay greater attention to the impact of learning analytics (Reviewer 3).

Response: Impact will be a major focus of the program. New or revised course syllabi on Educational Data Science, AI in Education, Foundations of Learning Analytics, and Educational Research and Evaluation now include discussion of this focus.



- Address more effectively how the program will deal with the uneven skill sets of incoming students (Reviewer 3).

Response: Thank you for these helpful comments. The reviewer correctly points out that, even if students have demonstrated proficiency in mathematics, statistics, computer science, and/or quantitative reasoning, they still may have very unequal skill sets. Revisions to the course schedule should partially ameliorate this as the program will now begin with a 4-unit course in Educational Data Science (which should allow more time to get up to speed in some areas compared to the prior 2-unit course) and a course on Introduction to AI in Education (which will focus more on teaching and learning than on technical matters). Course syllabi will also be revised so that a greater focus is placed on adaptable assignments. Every course will offer at least two hours per week of office hours—at different times of the day so as to reach people in different time zones—for more personalized support. Representatives of the Division of Teaching Excellence and Innovation will also be invited to offer professional development to course instructors so that all are prepared to teach effectively in classes of diverse preparation, including developing strategies for how this can be handled in group work.

One key course in which important differences may emerge is the first course, Introduction to Educational Data Science, which among other things, will introduce students to both R and Python for use in the field and program. Some students might come with substantial knowledge of both; some with no knowledge of either. Assignments will be adapted to handle students of all backgrounds in developing initial or more advanced skills with these tools. The fact that the first week of this course will be taught intensively in person will facilitate offering increased personalized help for students most in need of it. The overall goal is to complete work on this course intensively in two weeks (one in person and one online), but as this will formally be part of the fall quarter instructional sequence, students who need extra time and support to reach course objectives will have that available throughout the fall quarter.

- Justify and/or remedy the pedagogical consequences of the apparent lack of any direct interaction between students and faculty throughout the online, asynchronous program (Reviewer 4, Reviewer 5).



Response: Please see our response to the first point above for a discussion of how we will address this.

- Address how the program will offer high-quality summer courses. Four of the ten courses will be offered during the summer and traditionally it is difficult to attract faculty interest to teach during the summer. To maintain a high-quality educational experience, the faculty should teach these summer courses rather than rely on less expert graduate students or Unit 18 lecturers (Reviewer 4).

Response: We have reduced the number of summer courses from four to two to mitigate this problem. (A third course will start about 10 days before the official start of fall quarter, but that early start won't be a conflict for program faculty.)

- Expand the number of categories of selection for members of the proposed voluntary board IPAB (Reviewer 4).

Response: As noted by the reviewer, the IPAB members need to be updated as these commitments were made several years ago. We have revised the proposal to indicate the categories of people who will be recruited to the IPAB, which will include (1) K-12 education (including representatives of school districts and/or county or state offices of education; (2) higher education (including both community colleges or districts and state universities or systems); and (3) industry (including educational technology companies, technology firms whose products are used in education, and large firms that carry out their own employee training).

- Strengthen the incentives for students to attend events in-person. Currently, the program gives students the option to attend events in-person during the first week of classes; and the option to participate in-person in the capstone project presentation. How could students be further incentivized and encouraged? (Reviewer 4).

Response: We have changed the language around these in-person visits. As we believe the first week will be especially important to establish positive relationships for the entire program, we will now indicate that this week is required, with exception requests considered for those who are unable to attend. The final visit will be described as "strongly recommended."



We are also structuring the first week to more clearly demonstrate the benefits of in-person attendance. Each day students will attend the in-person Educational Data Science course in the morning. In the afternoon, the following activities will be offered (tentative schedule)

Monday

- Attend graduating students' poster presentations
- Afternoon celebration with a keynote address from a leader in educational data science (e.g., from the Advisory Board)
- Reception with Advisory Board members and graduating students

Tuesday

- Welcome to the program talks by Professors Mark Warschauer and Nia Nixon
- Individual or small group meetings with program faculty
- Reception with program faculty

Wednesday

- Panel presentation by employers on employment opportunities in AI and educational data science and how to succeed in the job market
- Visit to a prominent local employer (e.g., Google)

Thursday

- Panel presentation on doctoral programs in relevant fields (e.g., Education, Human-Computer Interaction, Data Science)
- Workshop on how to prepare a strong doctoral application

Friday

- Beach picnic

- Address, justify, and/or remedy the perception that the program offers an approach to learning analytics no longer founded in the fundamentals of education science, e.g. a “generic data mining that happens to use education data” and the “complete lack of attention to and training in education, education practice, learning, assessment or measurement,” with the knock-on effects of producing graduates who would be disadvantaged when they apply for jobs (Reviewer 5).

Response: Thank you for this suggestion. We have revised the curriculum substantially to address this excellent suggestion.



We have reduced the course load on generic data mining skills, which allows more room in the program on training in education, education practice, learning, assessment, and measurement. The courses on “Managing and Processing Educational Data,” “Educational Data Mining,” and “Text as Data” have all been removed, and they will be replaced by two courses on AI in Education, which will both focus squarely on questions of education, education practice, learning, and assessment. The course on Introduction to Educational Data Science is now four units instead of two, which will leave more time within it to cover educational theory and research. The course on Research and Evaluation of Digital Learning Environments has been renamed as Educational Research and Evaluation, and will focus more in depth on questions of assessment and measurement. The expansion of the Capstone course from two units to four units will also allow students more time, with faculty guidance, to focus on important questions of educational research and practice. We will also have a “special topics” class, which will allow us to flexibly change from year to year to address topics questions in learning analytics and AI; in the initial years of the program, the topic of this course will be Psychometrics, which will further strengthen the program’s attention to learning, measurement, and assessment. Finally, because the revised curriculum introduces AI as a major theme we propose a name change to “Concentration in Artificial Intelligence and Learning Analytics”.

- In your response, please create a “redline” version of the proposal that highlights any changes made.

Response: See attached.