FLORIDA ATLANTIC UNIVERSITY

NEW/CHANGE PROGRAM REQUEST
Graduate Programs

UGPC Approval _____
UFS Approval _____
Banner Posted _____
Catalog _____

Department Electrical Engineering and Computer Science

College Engineering and Computer Science

Program Name
M.S. in Data Science and Analytics (Engineering Concentration)

☐ **New Program**
☐ **Change Program**

Effective Date
(TERM & YEAR)
Summer 2025

Please explain the requested change(s) and offer rationale below or on an attachment

We would like to modify the curriculum so that it aligns with that at other major institutions and better prepares students for engineering careers in data science and analytics, which is a new and rapidly evolving field. The current curriculum is limited in scope and does not provide students with the knowledge needed.

Specifically, we would like to modify the curriculum for our concentration in the following ways:
1) Replace common core course CAP 6673 with CAP 5625 to provide a better foundation in machine learning.
2) Replace STA 5195 (Biostatistics) with STA 6106 (Statistical Computing), which is broader and more appropriate for students learning data science.
3) Require that two of the concentration courses are CEN 5086 (Cloud Computing) and a database course (COP 6726 or COP 6731), which provide important skills that our students are currently lacking.

We would also like to modify the program for all concentrations in the following ways:
1) Remove the GRE requirement to align with most other graduate programs.
2) Require that students take a maximum of one course from each outside concentration to promote interdisciplinary thinking.

Faculty Contact/Email/Phone
Dr. Hari Kalva / hkalva@fau.edu / 561-297-0511

Consult and list departments that may be affected by the change(s) and attach documentation
n/a

Approved by	***Date***
Department Chair: Hari Kalva	1/17/2025
College Curriculum Chair: Francisco Presuel-Moreno	1/21/2025
College Dean: Raquel Assis	1/21/2025
UGPC Chair: ARTHUR SEMENTELLI (Feb 22, 2025 15:02 EST)	02/22/2025
UGC Chair: ARTHUR SEMENTELLI (Feb 22, 2025 15:02 EST)	02/22/2025
Graduate College Dean: Robert W Stackley	02/22/2025
UFS President	
Provost	

Email this form and attachments to UGPC@fau.edu one week before the UGPC meeting so that materials may be viewed on the UGPC website prior to the meeting.

DATA SCIENCE AND ANALYTICS
MASTER OF SCIENCE (M.S.)

Data Science via Scientific Inquiry Concentration
Data Science and Engineering Concentration
Data Science in Business Concentration
Data Science in Society Concentration

The Master of Science with Major in Data Science and Analytics (MSDSA) is a multi-college interdisciplinary program jointly administered by the Department of Mathematics and Statistics in the Charles E. Schmidt College of Science, the Department of Electrical Engineering and Computer Science in the College of Engineering and Computer Science, the Department of Information Technology and Operations Management in the College of Business and the Department of Political Science in the Dorothy F. Schmidt College of Arts and Letters. The program aims to prepare students with essential skill sets needed to analyze small, fast, big, massive and complex data. To allow for maximum flexibility in career aspirations, students may select from four concentrations:

- Data Science via Scientific Inquiry Concentration, Department of Mathematics and Statistics
- Data Science and Engineering Concentration, Department of Electrical Engineering and Computer Science (EECS) (This concentration is also available fully online.)
- Data Science in Business Concentration, Department of Information Technology and Operations Management
- Data Science in Society Concentration, Department of Political Science

Admission Requirements
To be admitted to the MSDSA program, applicants must:

1. -Have obtained a bachelor's degree from an accredited institution and possess a minimal background consisting of MAC 2233 (Methods of Calculus) or equivalent and STA 2023 (Introductory Statistics) or equivalent. Students applying to the Data Science and Engineering concentration must have completed a college-level introductory programming course with a minimum grade of "C." Knowledge of Python and statistical packages such as R, as well as coursework in linear algebra are recommended for all concentrations;
2. Have an undergraduate GPA of 3.0 or higher in the last 60 credits of undergraduate coursework;
3. Submit two letters of recommendation for all concentrations, except the Data Science and Engineering concentration;
4. ~~Have attained scores of at least 151 (verbal) and 151 (quantitative) on the Graduate Record Examination (GRE). GRE scores more than five years old are not acceptable normally. GRE is not required for admission to the Data Science and Engineering concentration;~~

5.4. Be proficient in written and spoken English. International students from non-English-speaking countries must present a score of at least 500 (paper-based test) or 213 (computer-based test) or 79 (internet-based test) on the Test of English as a Foreign Language (TOEFL) or a score of at least 6.0 on the International English Language Testing System (IELTS); and

6.5. Meet other requirements of the FAU Graduate College.

Curriculum Requirements

The MSDSA program offers both thesis and non-thesis options. Both options require a minimum of 30 credits. Students are required to take one two common core courses, two one additional core courses, four concentration courses, and three elective courses for the total of 30 credits. To encourage interdisciplinarity, additional core and elective courses taken outside of the chosen concentration must be distributed across the other concentrations, such that no more than one course is taken from each of the other concentrations. The exact courses taken are to be determined by the students and their advisory committee. The thesis option requires only one elective course and 6 thesis credits. Students selecting the thesis option must complete and defend a written thesis successfully.

Data Science via Scientific Inquiry Concentration

Common Core Courses		
Introduction to Data Science	CAP 5768	3
Biostatistics	STA 5195	3
Take one additional core course		
Data Mining and Machine Learning	CAP 6673	3
Introduction to Business Analytics and Big Data	ISM 6404	3 **or**
Quantitative Methods in Political Science	POS 6746	3
Take four concentration courses		
Computer Data Security	CIS 6370	3
Data Analysis and Modeling for Cybersecurity	CAI 6803	3
Introduction to Cryptology and Information Security	MAD 5474	3
Graph Theory	MAD 6307	3
Cryptanalysis	MAD 6478	3
Applied Computational Topology	MTG 6329	3
Statistical Computing	STA 6106	3
Survival Analysis	STA 6177	3
Regression Analysis	STA 6236	3
Mathematical Statistics	STA 6326	3
Applied Time Series Analysis	STA 6857	3

Take three elective courses from the Electives Table. Thesis option requires only one elective course and 6 thesis credits.

Data Science and Engineering Concentration (This concentration is also available fully online.)

Common Core Courses		
Introduction to Data Science	CAP 5768	3
~~Data Mining and Machine Learning~~	~~CAP 6673~~	~~3~~
Computational Foundations of AI	CAP 5625	3
Take one additional core course		
~~Biostatistics~~Statistical Computing	STA ~~5195~~6106	3 **or**
Introduction to Business Analytics and Big Data	ISM 6404	3 **or**
Quantitative Methods in Political Science	POS 6746	3
Take four concentration courses, one in cloud computing, another in database systems, and two additional courses with the prefix CAP., ~~any course with the prefix CAP offered by the EECS Department, or CEN 6405~~		
Cloud Computing	CEN 5086	3
New Directions in Database Systems	COP 6726	3 **or**
Theory and Implementation of Database Systems	COP 6731	3
Take three elective courses from the Electives Table. Thesis option requires only one elective course and 6 thesis credits.		

Data Science in Business Concentration

Common Core Courses		
Introduction to Data Science	CAP 5768	3
Introduction to Business Analytics and Big Data	ISM 6404	3
Take one additional core course		
Biostatistics	STA 5195	3 **or**
Data Mining and Machine Learning	CAP 6673	3 **or**
Quantitative Methods in Political Science	POS 6746	3
Take four concentration courses		
Quantitative Communication Research	COM 6316	3
Data Mining and Predictive Analytics	ISM 6136	3
Database Management Systems	ISM 6217	3
Advanced Business Analytics	ISM 6405	3
Social Media and Web Analytics	ISM 6555	3
Data Management and Analysis with Excel	QMB 6303	3
Data Analysis for Managers	QMB 6603	3
Take three elective courses from the Electives Table. Thesis option requires only one elective course and 6 thesis credits.		

Data Science in Society Concentration

Common Core Courses		
Introduction to Data Science	CAP 5768	3
Quantitative Methods in Political Science	POS 6746	3
Take one additional core course		

Biostatistics	STA 5195	3 **or**
Data Mining and Machine Learning	CAP 6673	3 **or**
Introduction to Business Analytics and Big Data	ISM 6404	3
Take four concentration courses		
Advanced Anthropological Research 2	ANG 6092	3
Quantitative Reasoning in Anthropological Research	ANG 6486	3
Social Networks and Big Data Analytics	CAP 6315	3
Quantitative Communication Research	COM 6316	3
Social Media and Web Analytics	ISM 6555	3
Seminar in Political Behavior	POS 6208	3
Research Design in Political Science	POS 6736	3
Seminar in Advanced Research Methods	SYA 6305	3

Take three elective courses from the Electives Table. Thesis option requires only one elective course and 6 thesis credits.

Electives Table

Business Analytics		
Data Mining and Predictive Analytics	ISM 6136	3
Database Management Systems	ISM 6217	3
Introduction to Business Analytics and Big Data	ISM 6404	3
Advanced Business Analytics	ISM 6405	3
Social Media and Web Analytics	ISM 6555	3
Data Management and Analysis with Excel	QMB 6303	3
Data Analysis for Managers	QMB 6603	3
Database and Cloud Computing		
Multiprocessor Architecture	CDA 6132	3
Cloud Computing	CEN 5086	3
New Directions in Database Systems	COP 6726	3
Theory and Implementation of Database Systems	COP 6731	3
Database Management Systems	ISM 6217	3
Data Mining and Machine Learning		
Introduction to Neural Networks	CAP 5615	3
Social Networks and Big Data Analytics	CAP 6315	3
Data Mining for Bioinformatics	CAP 6546	3
Machine Learning for Computer Vision	CAP 6618	3
Deep Learning	CAP 6619	3
Reinforcement Learning	CAP 6629	3
Artificial Intelligence	CAP 6635	3
Data Mining and Machine Learning	CAP 6673	3 **or**
Applied Machine Learning	CAP 6610	3
Information Retrieval	CAP 6776	3

Web Mining	CAP 6777	3
Advanced Data Mining and Machine Learning	CAP 6778	3
Big Data Analytics with Hadoop	CAP 6780	3
Computational Advertising and Real-Time Analytics	CAP 6807	3
Computer Performance Modeling	CEN 6405	3
Data Mining and Predictive Analytics	ISM 6136	3
Data Security and Privacy		
Computer Data Security	CIS 6370	3
Data Analysis and Modeling for Cybersecurity	CAI 6803	3
Management of Information Assurance and Security	ISM 6328	3
Introduction to Cryptology and Information Security	MAD 5474	3
Cryptanalysis	MAD 6478	3
Quantum Mechanics 2	PHY 6646	3
Scientific Applications and Modeling		
Photogrammetry and Aerial Photography Interpretation	GIS 6028C	3
LiDAR Remote Sensing and Applications	GIS 6032C	3
Web GIS	GIS 6061C	3
Geospatial Databases	GIS 6112C	3
Hyperspectral Remote Sensing	GIS 6127	3
Spatial Data Analysis	GIS 6306	3
Special Topics (Quantum Information Processing)	PHY 6938	3
Computational Physics	PHZ 5156	3
Numerical Relativity	PHZ 7609	3
Social Data Science		
Advanced Anthropological Research 1	ANG 6090	3
Advanced Anthropological Research 2	ANG 6092	3
Quantitative Reasoning in Anthropological Research	ANG 6486	3
Social Networks and Big Data Analytics	CAP 6315	3
Quantitative Communication Research	COM 6316	3
Quantitative Methods in Political Science	POS 6746	3
Research Design in Political Science	POS 6736	3
Seminar in Advanced Research Methods	SYA 6305	3
Statistics and Data Applications		
Biomedical Data and Informatics	BSC 6459	3
Biostatistics	STA 5195	3
Statistical Computing	STA 6106	3
Survival Analysis	STA 6177	3
Biostatistics - Longitudinal Data Analysis	STA 6197	3
Applied Statistical Methods	STA 6207	3
Regression Analysis	STA 6236	3
Mathematical Statistics	STA 6326	3
Applied Time Series Analysis	STA 6857	3

Applied Computational Topology	MTG 6329	3

Outlook

Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

From Yuan Wang <YWANG@fau.edu>
Date Fri 1/17/2025 1:56 PM
To Raquel Assis <rassis@fau.edu>; Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>

3 attachments (894 KB)
MSDSA_form-MathConcentration.pdf; MSDSA_catalogchanges-math.docx; course-change-request-STA6106.pdf;

Dear all,

I support all changes proposed by Raquel. The Math Concentration is following up with the following changes, in addition to the changes for all concentrations:

- Replace common core course STA 5195 (Biostatistics) with STA 6106 (Statistical Computing).
- Replace CAP 6673 (Data Mining and Machine Learning) with CAP 5625 (Computational Foundations of AI)

Please see the documents from the Math concentration, and a course change request of STA 6106 on the prereq to accommodate all concentrations.

> This is my first interdisciplinary program change proposal, so I also have a question for anyone who knows the answer - should I replace STA 5195 with STA 6106 for all concentrations in the tracked document, or does each college separately make changes for their own concentration?

I guess each concentration will need an approval from the home college, and after the approval of the college, we will need to merge as a comb to go through FAU Graduate Council, Graduate Program Committee, etc.

Thank you all.
Yuan

On 1/16/2025 4:29 PM, Raquel Assis wrote:

> Dear all,
>
> Tamara from the College of Business supports all changes to the program. **Dukhong**, can you please let us know if you support these changes as well? At the end of our last meeting, you stated that you needed to consult with your faculty.

I am also attaching the newest drafts of our program change form and tracked catalog changes. The only change since the last versions is the replacement of STA 5195 (Biostatistics) with STA 6106 (Statistical Computing) in the curriculum for the Engineering Concentration.

This is my first interdisciplinary program change proposal, so I also have a question for anyone who knows the answer - should I replace STA 5195 with STA 6106 for all concentrations in the tracked document, or does each college separately make changes for their own concentration?

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Raquel Assis <rassis@fau.edu>
Sent: Wednesday, January 8, 2025 3:41 PM
To: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>; Yuan Wang <YWANG@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Hi Yuan,

That's okay with us.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Wednesday, January 8, 2025 1:54 PM
To: Raquel Assis <rassis@fau.edu>; Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Happy New Year, everyone!

Raquel, thank you for following up. From Math, we are considering replacing STA 5198 Biostat with STA 6106 Statistical Computing, and revise the prereq of STA 6106 to "permission by instructor". While the instructor likely will give everyone a permission, they can advise those who may need to put in extra effort.

Is this okay with everyone?

Best regards,
Yuan

On 1/8/2025 1:03 PM, Raquel Assis wrote:

> Hi all,
>
> Happy new year! Hope you had a relaxing break.
>
> I am following up on the email that I sent before break. I know that some of you are consulting with your faculty about the proposed changes, but it would be great to also get some feedback from the College of Business.
>
> Best,
> Raquel
>
> Raquel Assis, Ph.D.
> Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
> College of Engineering and Computer Science
> Florida Atlantic University
> http://assisgroup.fau.edu/
>
> ---
>
> **From:** Raquel Assis <rassis@fau.edu>
> **Sent:** Friday, December 20, 2024 6:09 PM
> **To:** Yuan Wang <YWANG@fau.edu>; Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
> **Subject:** Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)
>
> Hi Yuan,
>
> That seems like a reasonable substitute to me. I assume you will be removing/modifying the prerequisite?
>
> Best,
> Raquel
>
> Raquel Assis, Ph.D.
> Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
> College of Engineering and Computer Science
> Florida Atlantic University
> http://assisgroup.fau.edu/
>
> ---
>
> **From:** Yuan Wang <YWANG@fau.edu>
> **Sent:** Friday, December 20, 2024 4:18 PM

To: Raquel Assis <rassis@fau.edu>; Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Raquel and all,

The math team has reviewed the issue of revising STA 5195 Biostatistics, and we are considering instead of revising STA 5198, we propose using the course STA 6106 Statistical Computing to replace STA 5198 Biostatistics. Here is the current catalog description of STA 6106:

> **Statistical Computing (STA 6106) 3 credits**
> *Prerequisite: STA 4443 or equivalent*
> Algorithms in statistical computing: Random number generation, generating other distributions, random sampling and permutations. Matrix computations in linear models. Non-linear optimization with applications to statistical procedures. Other topics of current interest, such as issues of efficiency and use of graphics.

We can revise this course to make the course accessible to all students in the Data Science MS program. Please let us know if this is an acceptable replacement of STA 5195. Thank you all.

Happy holidays!
Yuan

On 12/16/2024 5:18 PM, Raquel Assis wrote:

> Dear all,
>
> Thank you for those of you who joined our productive discussion today!
>
> I am attaching new versions of the program change form and tracked catalog changes.
>
> As discussed earlier, these new versions incorporate the following changes to the Engineering Concentration:
>
> 1) Replacement of CAP 6673 with CAP 5625 in the engineering common core
> 2) Inclusion of cloud computing (CEN 5086) and database systems courses (COP 6726 or COP 6731) in the concentration courses
>
> The changes to the engineering concentration therefore no longer affect other departments.

In addition, we discussed several ideas for program-wide changes, which I included as well:

1) Removing the GRE requirement to align with most modern graduate programs
2) Requiring that students take no more than one course from each outside concentration to encourage interdisciplinarity

These program-wide changes were agreed upon by those present at the meeting today, but of course all parties will have to consult with their faculty members to ensure that there is a general consensus.

For those who did not attend, we also discussed the following changes that I did not include in the attached documents:

1) Changing the name of STA 5195 from "Biostatistics" to "Applied Statistics" or something similar, which will hopefully encourage more students to take this course. I did not incorporate this change here because I did not want to change anything in another concentration.
2) Shortening the elective table by considering enrollment, as well as which courses are really important for data science students. I did not do this either because I believe that this requires more consideration by all colleges involved.

Please look over these proposed changes, and let us know your thoughts.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Raquel Assis <rassis@fau.edu>
Sent: Tuesday, December 10, 2024 6:40 PM
To: Yuan Wang <YWANG@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Mina Yumusak <fyumusak@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Hi Yuan,

Okay, sounds great! I will book a conference room in Engineering East and send out an invitation tomorrow.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Tuesday, December 10, 2024 5:38 PM
To: Raquel Assis <rassis@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Mina Yumusak <fyumusak@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Hi Raquel,

Thank you for arranging the schedule. We are all fine to have the meeting on Monday, Dec 16, 3-4:00 PM, except that Prof. Yang Li has to leave by 3:45 PM.

Please go ahead to book a room. Thank you again. Looking forward to catch up with everyone!

Best,
Yuan

On 12/10/2024 3:21 PM, Raquel Assis wrote:

> Hi Yuan,
>
> So far, it looks like the only date and time that works for everyone is Monday, December 16 from 3-4:00pm.
>
> So can you let any other interested faculty know that this is the time we are considering? If it works for everyone, then I can book a room.
>
> Best,
> Raquel
>
> Raquel Assis, Ph.D.

Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Raquel Assis <rassis@fau.edu>
Sent: Tuesday, December 10, 2024 1:20 PM
To: Yuan Wang <YWANG@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Mina Yumusak <fyumusak@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Yuan,

I think that's a great idea. Can you please send the Doodle poll below to your faculty who may want to attend?

https://doodle.com/meeting/organize/id/bD6Q6wke

I will check the poll on Thursday to see if there is a date and time that works for everyone.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Monday, December 9, 2024 6:18 PM
To: Raquel Assis <rassis@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Raquel,

Thank you very much for revising the program change proposal in response to our faculty's concerns. We really appreciate your hearing us out.

A few of us (Parker Edwards, Yang Li, Vincent Naudot, and possibly myself) would like to have an opportunity to meet with your faculty members involved with or interested in the MS in Data Science program. Our goal is to have a friendly discussion on how you run your program, and how we may improve our program. Could we set up such a meeting within a week or so? We can walk to your building for the meeting, and you are also welcome to have a meeting in ours.

Please let me know if that works. Thank you again!

Best regards,
Yuan

On 12/6/2024 4:57 PM, Raquel Assis wrote:

> Dear Yuan,
>
> Thank you for your feedback. Our faculty were receptive to your concerns, and we have modified the proposed changes as follows:
>
> 1) No modification (replace the common core course CAP 6673 with CAP 5625, which provides a better foundation of machine learning algorithms for data science)
>
> 2) Add STA 5195 (Biostatistics) as an option for the additional core course. The rationale is that we would like our students to take an EECS database course as part of the core curriculum, but would also be happy if they instead obtained a strong foundation in statistics. Though CAP 5768 provides some of this knowledge, we feel that students would benefit from a more rigorous course in statistics.
>
> 3) No modification (require that one of the concentration courses is CEN 5086 (Cloud Computing), which is important for modern-day data science and analytics)
>
> 4) Promote interdisciplinarity by allowing students to take all non-EECS elective courses (as before), but not more than one course from a particular department. This would also help distribute the courses more evenly across departments, and our faculty would be

supportive of other departments implementing similar changes to their concentrations in the future.

I am attaching a new course change form and document containing marked catalog changes. Please let me know if this addresses your concerns.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies,
Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Raquel Assis <rassis@fau.edu>
Sent: Thursday, December 5, 2024 4:13 PM
To: Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Yuan Wang <YWANG@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Yuan,

Thank you for your quick response. I will discuss these concerns with our faculty and get back to you shortly.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies,
Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Wednesday, December 4, 2024 6:52 PM
To: Raquel Assis <rassis@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni

<zhenni@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Raquel,

Thank you for reaching out to us. However, our faculty have expressed some concerns regarding the proposed program change.

- The primary concern is that the revised program significantly diminishes the interdisciplinary nature of the Engineering Concentration. Specifically, item 2 suggests replacing three courses from other disciplines with COP 6731. Additionally, item 4 proposes that an EECS student (in non-thesis option) take two electives from EECS, leaving only one elective from other disciplines. As a result, students in the Engineering Concentration would be limited to just one elective course from outside their primary discipline.

- The proposed changes could also impact the enrollment for courses in other disciplines over time.

- Despite the Engineering Concentration's high enrollment of over 200 students, we have not faced enrollment pressure in the courses that we offer. We welcome students from all concentrations to enroll in our courses.

- With the revised program, the Engineering students would be required take more EECS electives, potentially making it difficult for students from other concentrations to take these electives.

We would greatly appreciate your understanding and consideration of our concerns.

Best regards,
Yuan Wang, Professor and Chair
Department of Mathematics and Statistics
Florida Atlantic University

On 12/4/2024 2:54 PM, Raquel Assis wrote:

> Dear chairs,
>
> I am just following up about the proposed changes that I sent last week. Please let me know if you have any questions or concerns.
>
> Best,
> Raquel
>
> Raquel Assis, Ph.D.
> Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
> College of Engineering and Computer Science
> Florida Atlantic University
> http://assisgroup.fau.edu/
>
> ---
>
> **From:** Raquel Assis
> **Sent:** Monday, November 25, 2024 2:36 PM
> **To:** Yuan Wang <YWANG@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>
> **Cc:** Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>
> **Subject:** Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)
>
> Dear chairs,
>
> The Department of Electrical Engineering and Computer Science would like to propose a

few changes to the Engineering Concentration of our interdisciplinary M.S. In Data Science and Analytics. Here is a brief description of the proposed changes:

1) Replace the common core course CAP 6673 with CAP 5625, which provides a better foundation of machine learning algorithms for data science.

2) Replace the additional core course where students chose from three non-EECS courses with an EECS database course (either COP 6726 or COP 6731), which is an important area of data science that our students are currently lacking in.

3) Require that one of the concentration courses is CEN 5086 (Cloud Computing), which is important for modern-day data science and analytics.

4) Require that two of the three elective courses are taken within EECS for the non-thesis option, which will enable more in-depth focus in engineering.

There have also been previous discussions about the large teaching burden on other departments due to EECS annual enrollment numbers of >200 students/year (in contrast to <20 students/year in the other departments). Requiring that EECS students take fewer courses outside of the department will not only better prepare our students for engineering-focused careers in data science and

analytics, but also help alleviate some of this burden.

I am attaching the program change form and tracked catalog changes (including corrections of a few typos in the main text). Please review these documents and let us know your thoughts.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

Outlook

RE: Email about MSDSA changes

From Tamara Dinev <tdinev@fau.edu>
Date Thu 1/16/2025 3:45 PM
To Raquel Assis <rassis@fau.edu>
Cc Hari Kalva <hkalva@fau.edu>

Dear Raquel:

Thank you so much, I have no comments and endorse the changes.

Best Regards:
Tamara
==========
Tamara Dinev, Ph.D.
Department Chair and Professor
Dean's Distinguished Research Fellow
Department of Information Technology and Operations Management, FL 219
College of Business, Florida Atlantic University
Boca Raton, Florida 33431
Google Scholar: https://scholar.google.com/citations?user=YH8QZ-YAAAAJ&hl=en

---

From: Raquel Assis <rassis@fau.edu>
Sent: Thursday, January 16, 2025 11:54 AM
To: Tamara Dinev <tdinev@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>
Subject: Re: Email about MSDSA changes

Hi Tamara,

Thank you for the quick response.

I am attaching drafts of our program change form and tracked catalog changes.

In addition, Math would like to change STA 5195 Biostatistics to STA 6106 Statistical Computing. I did not include this in our documents because it is not a course in our department.

Please let me know if you have any questions or would like to discuss this further.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Tamara Dinev <tdinev@fau.edu>
Sent: Thursday, January 16, 2025 6:21 AM
To: Raquel Assis <rassis@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>
Subject: Re: Email about MSDSA changes

Hello Raquel:

Thank you for your email. I have followed the discussion, there was a lot of back and forth.

Can you please send me the final document of all changes, the way it will go to the approval process?

Thank you!

Best Regards:
Tamara Dinev, Ph.D.
Department Chair and Professor
Dean's Distinguished Research Fellow
Department of Information Technology and Operations Management, FL 219
College of Business,
Florida Atlantic University
Boca Raton, Florida 33431
Web: https://business.fau.edu/faculty-research/faculty-profiles/profile/tdinev.php
Google Scholar: https://scholar.google.com/citations?user=YH8QZ-YAAAAJ&hl=en

On 1/15/25 10:09, Raquel Assis wrote:

> Dear Tamara,
>
> I am reaching out because I do not know if you have received our emails about proposed changes to the MSDSA program. The last email was sent on Wednesday, January 8 at 3:41pm.
>
> Can you please check your email and let us know your thoughts on these changes? We would also be happy to discuss this if you prefer.
>
> Best,
> Raquel
>
> Raquel Assis, Ph.D.
> Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
> College of Engineering and Computer Science
> Florida Atlantic University
> http://assisgroup.fau.edu/

Outlook

Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

From Dukhong Kim <dkim4@fau.edu>
Date Fri 1/17/2025 12:45 PM
To Raquel Assis <rassis@fau.edu>; Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>; Yuan Wang <YWANG@fau.edu>

Hi Raquel,

We support your changes to the program.

Best,
Dukhong

****
Dukhong Kim
Associate Professor
Interim Chair, Department of Political Science
Social Science Building(SO) 384b
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33431
phone: 561-297-3216
email: dkim4@fau.edu

From: Raquel Assis <rassis@fau.edu>
Sent: Thursday, January 16, 2025 4:29 PM
To: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>; Yuan Wang <YWANG@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear all,

Tamara from the College of Business supports all changes to the program. **Dukhong**, can you please let us know if you support these changes as well? At the end of our last meeting, you stated that you needed to consult with your faculty.

I am also attaching the newest drafts of our program change form and tracked catalog changes. The only change since the last versions is the replacement of STA 5195 (Biostatistics) with STA 6106 (Statistical Computing) in the curriculum for the Engineering Concentration.

This is my first interdisciplinary program change proposal, so I also have a question for anyone who knows the answer - should I replace STA 5195 with STA 6106 for all concentrations in the tracked document, or does each college separately make changes for their own concentration?

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Raquel Assis <rassis@fau.edu>
Sent: Wednesday, January 8, 2025 3:41 PM
To: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>; Yuan Wang <YWANG@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Hi Yuan,

That's okay with us.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Wednesday, January 8, 2025 1:54 PM
To: Raquel Assis <rassis@fau.edu>; Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Happy New Year, everyone!

Raquel, thank you for following up. From Math, we are considering replacing STA 5198 Biostat with STA 6106 Statistical Computing, and revise the prereq of STA 6106 to "permission by instructor". While the instructor likely will give everyone a permission, they can advise those who may need to put in extra effort.

Is this okay with everyone?

Best regards,
Yuan

On 1/8/2025 1:03 PM, Raquel Assis wrote:

Hi all,

Happy new year! Hope you had a relaxing break.

I am following up on the email that I sent before break. I know that some of you are consulting with your faculty about the proposed changes, but it would be great to also get some feedback from the College of Business.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Raquel Assis <rassis@fau.edu>
Sent: Friday, December 20, 2024 6:09 PM
To: Yuan Wang <YWANG@fau.edu>; Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Hi Yuan,

That seems like a reasonable substitute to me. I assume you will be removing/modifying the prerequisite?

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Friday, December 20, 2024 4:18 PM
To: Raquel Assis <rassis@fau.edu>; Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Raquel and all,

The math team has reviewed the issue of revising STA 5195 Biostatistics, and we are considering instead of revising STA 5198, we propose using the course STA 6106 Statistical Computing to replace STA 5198 Biostatistics. Here is the current catalog description of STA 6106:

> **Statistical Computing (STA 6106) 3 credits**
> *Prerequisite: STA 4443 or equivalent*
> Algorithms in statistical computing: Random number generation, generating other distributions, random sampling and permutations. Matrix computations in linear models. Non-linear optimization with applications to statistical procedures. Other topics of current interest, such as issues of efficiency and use of graphics.

We can revise this course to make the course accessible to all students in the Data Science MS program. Please let us know if this is an acceptable replacement of STA 5195. Thank you all.

Happy holidays!
Yuan

On 12/16/2024 5:18 PM, Raquel Assis wrote:

> Dear all,
>
> Thank you for those of you who joined our productive discussion today!
>
> I am attaching new versions of the program change form and tracked catalog changes.
>
> As discussed earlier, these new versions incorporate the following changes to the Engineering Concentration:
>
> 1) Replacement of CAP 6673 with CAP 5625 in the engineering common core
> 2) Inclusion of cloud computing (CEN 5086) and database systems courses (COP 6726 or COP 6731) in the concentration courses
>
> The changes to the engineering concentration therefore no longer affect other departments.
>
> In addition, we discussed several ideas for program-wide changes, which I included as well:
>
> 1) Removing the GRE requirement to align with most modern graduate programs
> 2) Requiring that students take no more than one course from each outside concentration to encourage interdisciplinarity
>
> These program-wide changes were agreed upon by those present at the meeting today, but of course all parties will have to consult with their faculty members to ensure that there is a general consensus.

For those who did not attend, we also discussed the following changes that I did not include in the attached documents:

1) Changing the name of STA 5195 from "Biostatistics" to "Applied Statistics" or something similar, which will hopefully encourage more students to take this course. I did not incorporate this change here because I did not want to change anything in another concentration.
2) Shortening the elective table by considering enrollment, as well as which courses are really important for data science students. I did not do this either because I believe that this requires more consideration by all colleges involved.

Please look over these proposed changes, and let us know your thoughts.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Raquel Assis <rassis@fau.edu>
Sent: Tuesday, December 10, 2024 6:40 PM
To: Yuan Wang <YWANG@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Mina Yumusak <fyumusak@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Hi Yuan,

Okay, sounds great! I will book a conference room in Engineering East and send out an invitation tomorrow.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Tuesday, December 10, 2024 5:38 PM
To: Raquel Assis <rassis@fau.edu>

Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Mina Yumusak <fyumusak@fau.edu>; Parker Edwards <edwardsp@fau.edu>; Vincent Naudot <vnaudot@fau.edu>; Yang Li <yangli@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Hi Raquel,

Thank you for arranging the schedule. We are all fine to have the meeting on Monday, Dec 16, 3-4:00 PM, except that Prof. Yang Li has to leave by 3:45 PM.

Please go ahead to book a room. Thank you again. Looking forward to catch up with everyone!

Best,
Yuan

On 12/10/2024 3:21 PM, Raquel Assis wrote:

> Hi Yuan,
>
> So far, it looks like the only date and time that works for everyone is Monday, December 16 from 3-4:00pm.
>
> So can you let any other interested faculty know that this is the time we are considering? If it works for everyone, then I can book a room.
>
> Best,
> Raquel
>
> Raquel Assis, Ph.D.
> Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
> College of Engineering and Computer Science
> Florida Atlantic University
> http://assisgroup.fau.edu/
>
> ---
>
> **From:** Raquel Assis <rassis@fau.edu>
> **Sent:** Tuesday, December 10, 2024 1:20 PM
> **To:** Yuan Wang <YWANG@fau.edu>
> **Cc:** Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Mina Yumusak <fyumusak@fau.edu>
> **Subject:** Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)
>
> Dear Yuan,
>
> I think that's a great idea. Can you please send the Doodle poll below to your faculty who may want to attend?

https://doodle.com/meeting/organize/id/bD6Q6wke

I will check the poll on Thursday to see if there is a date and time that works for everyone.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Monday, December 9, 2024 6:18 PM
To: Raquel Assis <rassis@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Raquel,

Thank you very much for revising the program change proposal in response to our faculty's concerns. We really appreciate your hearing us out.

A few of us (Parker Edwards, Yang Li, Vincent Naudot, and possibly myself) would like to have an opportunity to meet with your faculty members involved with or interested in the MS in Data Science program. Our goal is to have a friendly discussion on how you run your program, and how we may improve our program. Could we set up such a meeting within a week or so? We can walk to your building for the meeting, and you are also welcome to have a meeting in ours.

Please let me know if that works. Thank you again!

Best regards,
Yuan

On 12/6/2024 4:57 PM, Raquel Assis wrote:

> Dear Yuan,
>
> Thank you for your feedback. Our faculty were receptive to your concerns, and we have modified the proposed changes

as follows:

1) No modification (replace the common core course CAP 6673 with CAP 5625, which provides a better foundation of machine learning algorithms for data science)

2) Add STA 5195 (Biostatistics) as an option for the additional core course. The rationale is that we would like our students to take an EECS database course as part of the core curriculum, but would also be happy if they instead obtained a strong foundation in statistics. Though CAP 5768 provides some of this knowledge, we feel that students would benefit from a more rigorous course in statistics.

3) No modification (require that one of the concentration courses is CEN 5086 (Cloud Computing), which is important for modern-day data science and analytics)

4) Promote interdisciplinarity by allowing students to take all non-EECS elective courses (as before), but not more than one course from a particular department. This would also help distribute the courses more evenly across departments, and our faculty would be supportive of other departments implementing similar changes to their concentrations in the future.

I am attaching a new course change form and document containing marked catalog changes. Please let me know if this addresses your concerns.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Raquel Assis <rassis@fau.edu>
Sent: Thursday, December 5, 2024 4:13 PM
To: Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>; Yuan Wang <YWANG@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Yuan,

Thank you for your quick response. I will discuss these concerns with our faculty and get back to you shortly.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies, Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

From: Yuan Wang <YWANG@fau.edu>
Sent: Wednesday, December 4, 2024 6:52 PM
To: Raquel Assis <rassis@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>
Cc: Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>
Subject: Re: Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)

Dear Raquel,

Thank you for reaching out to us. However, our faculty have expressed some concerns regarding the proposed program change.

- The primary concern is that the revised program significantly diminishes the interdisciplinary nature of the Engineering Concentration. Specifically, item 2 suggests replacing three courses from other disciplines with COP 6731. Additionally, item 4 proposes that an EECS student (in non-thesis option) take two electives from EECS, leaving only one elective from other disciplines. As a result, students in the Engineering Concentration would be limited to just one elective course from outside their primary discipline.

- The proposed changes could also impact the enrollment for courses in other disciplines over time.

- Despite the Engineering Concentration's high enrollment of over 200 students, we have not faced enrollment pressure in the courses that we offer. We welcome students from all concentrations to enroll in our courses.

- With the revised program, the Engineering students would be required take more EECS electives, potentially making it difficult for students from other concentrations to take these electives.

We would greatly appreciate your understanding and consideration of our concerns.

Best regards,
Yuan Wang, Professor and Chair
Department of Mathematics and Statistics
Florida Atlantic University

On 12/4/2024 2:54 PM, Raquel Assis wrote:

> Dear chairs,
>
> I am just following up about the proposed changes that I sent last week. Please let me know if you have any questions or concerns.
>
> Best,
> Raquel
>
> Raquel Assis, Ph.D.
> Associate Dean for Graduate Studies,
> Associate Professor, and I-Health Fellow
> College of Engineering and Computer Science
> Florida Atlantic University
> http://assisgroup.fau.edu/
>
> ---
>
> **From:** Raquel Assis
> **Sent:** Monday, November 25, 2024 2:36 PM
> **To:** Yuan Wang <YWANG@fau.edu>; Tamara Dinev <tdinev@fau.edu>; Dukhong Kim <dkim4@fau.edu>
> **Cc:** Hari Kalva <hkalva@fau.edu>; Zhen Ni <zhenni@fau.edu>
> **Subject:** Proposed changes to M.S. in Data Science and Analytics (Engineering Concentration)
>
> Dear chairs,
>
> The Department of Electrical Engineering and Computer Science would like to propose a few changes to the Engineering Concentration of our interdisciplinary M.S. In Data Science and

Analytics. Here is a brief description of the proposed changes:

1) Replace the common core course CAP 6673 with CAP 5625, which provides a better foundation of machine learning algorithms for data science.

2) Replace the additional core course where students chose from three non-EECS courses with an EECS database course (either COP 6726 or COP 6731), which is an important area of data science that our students are currently lacking in.

3) Require that one of the concentration courses is CEN 5086 (Cloud Computing), which is important for modern-day data science and analytics.

4) Require that two of the three elective courses are taken within EECS for the non-thesis option, which will enable more in-depth focus in engineering.

There have also been previous discussions about the large teaching burden on other departments due to EECS annual enrollment numbers of >200 students/year (in contrast to <20 students/year in the other departments). Requiring that EECS students take fewer courses outside of the department will not only better prepare our students for engineering-focused careers in data science and analytics, but also help alleviate some of this burden.

I am attaching the program change form and tracked catalog changes (including corrections of a few typos in the main text). Please review these documents and let us know your thoughts.

Best,
Raquel

Raquel Assis, Ph.D.
Associate Dean for Graduate Studies,
Associate Professor, and I-Health Fellow
College of Engineering and Computer Science
Florida Atlantic University
http://assisgroup.fau.edu/

ENG #6

Final Audit Report 2025-02-22

Created:	2025-02-22
By:	Robert Stackman (rstackma@fau.edu)
Status:	Signed
Transaction ID:	CBJCHBCAABAAFg-oBjKcw7TmLwPeuF8nz6QgdwZ_v5BC

"ENG #6" History

Document created by Robert Stackman (rstackma@fau.edu)
2025-02-22 - 6:47:09 PM GMT

Document emailed to sementel@fau.edu for signature
2025-02-22 - 6:47:23 PM GMT

Email viewed by sementel@fau.edu
2025-02-22 - 8:01:24 PM GMT

Signer sementel@fau.edu entered name at signing as ARTHUR SEMENTELLI
2025-02-22 - 8:02:04 PM GMT

Document e-signed by ARTHUR SEMENTELLI (sementel@fau.edu)
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2025-02-22 - 8:02:09 PM GMT

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