November 1, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

The Department of Computer & Information Sciences will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting these courses, we acknowledge our intent to teach these courses on a regular basis and to admit students in the PhD Program in Bioinformatics Data Science into these courses as appropriate.

CISC 640 Computer Graphics
CISC 642 Introduction to Computer Vision
CISC 650 Computer Networks
CISC 667 Introduction to Human-Computer Interaction
CISC 675 Object Oriented Software Engineering
CISC 681 Artificial Intelligence
CISC 683 Introduction to Data Mining
CISC 684 Introduction to Machine Learning
CISC 844 Computational Biomedicine
CISC 849 Advanced Topics in Computer Applications
CISC 889 Advanced Topics in Artificial Intelligence

The Department of Computer & Information Sciences is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

Kathleen F. McCoy
Professor and Chair
November 1, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

The School of Nursing will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting these courses we acknowledge our intent to teach these courses on a regular basis and to admit non-majors into these course as appropriate.

NURS/HLTH 844 Population Healthcare Informatics

The School of Nursing is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

Barbara Habermann PhD RN FAAN
Interim Senior Associate Dean for Nursing
Nannie Longfellow Professor of Nursing
Associate Dean for Translational Research
302-831-8369
The Tower at STAR, 5th floor
100 Discovery Boulevard
Newark, DE 19713
November 1, 2018

Cathy H. Wu, Ph.D.

Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

The Department of Behavioral Health & Nutrition will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting this course, we acknowledge our intent to teach these courses on a regular basis and to admit non-majors into these courses as appropriate.

BHAN 856 Multivariable Biostatistics

The Department of Behavioral Health & Nutrition is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

If I can be of any further assistance please feel free to contact me.

Sincerely,

Michael Peterson, Ed.D.
Professor and Chairman
Department of Behavioral Health and Nutrition
Email: pmpeter@udel.edu
Phone: 302-831-2265
TO: Faculty Senate Academic Affairs Committee  
FROM: Professor E. Fidelma Boyd, Interim Chair  
RE: Center for Bioinformatics and Computational Biology, Letter of Support  
November 2nd, 2018

Dear Faculty Senate Academic Affairs Committee,

The Department of Biological Sciences will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum as electives.

- BISC 605  Advanced Mammalian Physiology
- BISC 609  Molecular Biology of the Cell
- BISC 625  Cancer Biology
- BISC 654  Biochemical Genetics
- BISC 690  Fundamentals of Pharmacology
- BISC 833  Special Topics in Biology: Grant Writing

The department looks forward to the program’s continued success.

Sincerely,

E. Fidelma Boyd  
Professor and Interim Chair
November 2, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

Dear Dr. Wu,

The Department of Chemistry & Biochemistry will support the following course for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting this course, we acknowledge our intent to teach this course on a regular basis and to admit non-majors into this course as appropriate.

CHEM 641  Biochemistry

The Department of Chemistry & Biochemistry is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

Brian J. Bahnson, Ph.D.
Professor and Chair of the Department of Chemistry & Biochemistry
The Department of Mathematical Sciences fully supports the Center for Bioinformatics and Computational Biology (CBCB) efforts to change the degree name from the PhD in Bioinformatics & Systems Biology to the PhD in Bioinformatics Data Science.

We have ample capacity to enroll these students in our Math 637 Mathematical Techniques in Data Science course which is now an elective. We intend to offer it on a regular basis.

The PhD program leverages research strengths, education resources, and bioinformatics infrastructure from fifteen participating departments across the Colleges of Arts & Sciences, Engineering, Agriculture & Natural Resources, Health Sciences, and Earth, Ocean & Environment, as well as the Delaware Biotechnology Institute. Changing the name to PhD in Bioinformatics Data Science accurately reflects the educational program and expands the PhD degree to encompass multiple fields of study, ranging from health informatics, translational medicine, artificial intelligence, and machine learning.

The name Bioinformatics Data Science allows the PhD degree to achieve the interdisciplinary learning objectives and globally represents diversity in teaching, research, and the mission of the center “To promote, coordinate, and support interdisciplinary activities."

Please let me know if there are any questions.
Dear Dr. Wu,

The School of Marine Science & Policy will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting these courses we acknowledge our intent to teach these courses on a regular basis and to admit non-majors into these course as appropriate.

- MAST 607 Writing Papers in the Marine Sciences
- MAST 626 Microbial Molecular Genetics

The School of Marine Science & Policy is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

Mark A. Moline
Director, School of Marine Science and Policy
Cathy H. Wu, Ph.D.  
Unidel Edward G. Jefferson Chair in Engineering and Computer Science  
Director, Data Science Institute  
Director, Center for Bioinformatics and Computational Biology  
Delaware Biotechnology Institute  
University of Delaware  
15 Innovation Way, Suite 205  
Newark, DE 19711

Dear Dr. Wu,

The Department of Mechanical Engineering will support the following elective course for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting this course we acknowledge our intent to teach this course on a regular basis and to admit non-majors into this course as appropriate.

MEEG 621  Linear Systems

The Department of Mechanical Engineering is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

Ajay K. Prasad, PhD  
Engineering Alumni Distinguished Professor and Chair  
Department of Mechanical Engineering  
Ph: (302) 831-2960  
Email: prasad@udel.edu
November 2, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

The Department of Plant and Soil Sciences will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting these courses we acknowledge our intent to teach these courses on a regular basis and to admit non-majors into these courses as appropriate.

PLSC 667 Applications of Genome Science: From Microbes to Mammals
PLSC 671 Paradigms in Cell Signaling

The Department of Plant and Soil Sciences is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Respectfully,

Erik Ervin, Ph.D.
Chair and Professor
November 1, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,
The Department of Applied Economics & Statistics will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting these courses we acknowledge our intent to teach these courses on a regular basis and to admit non-majors into these course as appropriate.

STAT 611 Regression Analysis
STAT 612 Advanced Regression Techniques
STAT 617 Multivariate Methods
STAT 621 Survival Analysis
STAT 674 Applied Data Base Management

The Department of Applied Economics & Statistics is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

Thomas W. Ilvento, Professor and Chair
November 1, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

The Department of Electrical & Computer Engineering will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting these courses we acknowledge our intent to teach these courses on a regular basis and to admit non-majors into these course as appropriate.

ELEG 671 Mathematical Physiology

The Department of Electrical & Computer Engineering is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

[Signature]

Kenneth E. Barner
Charles Black Evans Professor and Chair
November 7, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

The Department of Kinesiology & Applied Physiology will support the following courses for inclusion in the PhD in Bioinformatics Data Science curriculum. By supporting these courses we acknowledge our intent to teach these courses on a regular basis and to admit non-majors into these course as appropriate.

KAAP 602 Data Analysis and Interpretation in Health Sciences

The Department of Kinesiology & Applied Physiology is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the PhD in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

John J. Jeka, Ph.D.
Chair & Professor
November 7, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

The Department of Business Administration fully supports offering BUAD840 (Ethical Issues in Global Business Environments) as an elective in the PhD in Bioinformatics Data Science.

I look forward to the program’s continued success.

Best Regards,

Hemant V. Kher, PhD.
Professor and Chair
Department of Business Administration
November 9, 2018

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Data Science Institute
Director, Center for Bioinformatics and Computational Biology
Delaware Biotechnology Institute University of Delaware
15 Innovation Way, Suite 205
Newark, DE 19711

Dear Dr. Wu,

The Department of Chemical & Biomolecular Engineering will support the following course for inclusion in the Ph.D. in Bioinformatics Data Science curriculum. By supporting this course we acknowledge our intent to teach this course on a regular basis and to admit non-majors into this course as appropriate.

CHEG 621 Metabolic Engineering

The Department of Chemical & Biomolecular Engineering is pleased to contribute to the education of students in this important area. Interdisciplinary programs such as the Ph.D. in Bioinformatics Data Science are a benefit to the University of Delaware and to our society.

Sincerely,

[Signature]
Eric M. Furst
Professor and Department Chair