College Council

Agenda & Attachments

Tuesday, September 20, 2016
I. Adoption of the Agenda

II. Election of the Secretary to the College Council

III. College Council Orientation – Assistant Vice President Marjorie Singer

IV. Minutes of the May 10, 2016 College Council (attachment A), Pg. 3

V. Approval of the Members of the College Council Committees (attachment B), Pg. 7

VI. Report from the Undergraduate Curriculum and Academic Standards Committee (attachments C1-C4) – Interim Associate Provost and Dean of Undergraduate Studies, Dara Byrne

   New Courses

   C1. ENG 3XX (320) Writing Workshop in Autobiography: An Eye on the Self, Pg. 23

   Programs

   C2. Proposal for a New BS in Mathematics, Pg. 35

   Course Revisions

   C3. BIO 102 Paced Modern Biology I-B, Pg. 105
   C4. PSY/CSL 342 Introduction to Counseling Psychology, Pg. 107
VII. Report from the Committee on Graduate Studies (attachment D1-D10) – Associate Provost and Dean of Graduate Studies, Anne Lopes

New Courses

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Course Revisions

D2. CRJ 703 Critical Issues in Punishment, Pg. 117
D3. CRJ 716 Statistical Software in Criminal Justice, Pg. 118
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D5. CRJ 749 Ethics of Punishment, Pg. 121
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D7. CRJ 771 Special Topics in Criminal Justice, Pg. 124
D8. CRJ 793 Comprehensive Exam Review, Pg. 125
D9. FOS 707 Fundamentals of Forensic Toxicology, Pg. 126

Academic Policy Revision

D10. Proposal to change minimum credit requirements for full-time status in the Digital Forensics and Cybersecurity MS and MPA programs, Pg. 128

VIII. 2015-2016 College Council Committee Activity Report (attachment E), Pg. 130

IX. 2016-2017 College Council Calendar (attachment F), Pg. 131

X. New Business

XI. Administrative Announcements – President Travis

XII. Announcements from the Faculty Senate – Professor Warren Benton

XIII. Announcements from the Student Council – President Grace Theresa Agalo-os
The College Council held its eighth meeting of the 2015-2016 academic year on Tuesday, May 10, 2016. The meeting was called to order at 1:50 p.m. and the following members were present: Schevaletta Alford, Rosemary Barberet, Ellen Belcher, Warren Benton, Jane Bowers, Dara Byrne, Lynette Cook-Francis, Glenn Corbett*, Sven Dietrich, James DiGiovanna, Sandrine Dikambi, Artem Domashevskiy, Janice Dunham, Jennifer Dysart, Lisa Farrington, Kaniz Fatima, Ming Feng*, Anthony Forbez, Joel Freiser, Terry Furst, Jay Gates, Lior Gideon, John Gutierrez, Maki Haberfeld, Jay Hamilton, Faika Kabir, Karen Kaplowitz, Maria Kiriakova, Louis Kontos, Tom Kucharski, Anne Lopes, Yue Ma, Vincent Maiorino, Gerald Markowitz, Nancy Marshall, Roger McDonald, Mickey Melendez, Naomi Nwosu, Katherine Outlaw, Belinda Rincon, Kyle Roberts, Raul Romero, David Shapiro, Francis Sheehan, Raj Singh, Carmen Solis, Charles Stone, Dante Tawfeeq, Robert Till, Jeremy Travis, Robert Troy, Arturo Urena, Rebecca Weiss, Janet Winter, Marline Wright and Daniel Yaverbaum.


*Alternates.

I. Adoption of the Agenda

A motion was made to amend the agenda to include new item III, “The Approval of the 2016 Graduates.” The amendment was seconded and approved unanimously.

II. Minutes of the April 20, 2016 College Council (Attachment A)

A motion was made to approve the minutes. The motion was seconded and approved unanimously.

III. Approval of the 2016 Graduates (Attachment D) – Daniel Matos, Registrar

A motion was made to approve the list of 2016 graduates pending completion of all academic requirements. The motion was seconded and approved unanimously by faculty only.

IV. Report from the Undergraduate Curriculum and Academic Standards Committee (Attachments B1-B24)

A motion was made to adopt the revision to CUNY Justice Academy Program marked “B1. Proposal from BMCC to Revise the Dual Admission/Joint Degree for A.S./B.S. in Criminal Justice.” The motion was seconded and approved unanimously.
A motion was made to adopt CUNY Justice Academy Program marked “B2. Proposal from LaGCC for a Dual Admission/Joint Degree for A.S. in Science for Forensics/B.S. in Forensic Science.” The motion was seconded and approved unanimously.

A motion was made to adopt CUNY Justice Academy Program marked “B3, Proposal from QCC for a Dual Admission/Joint Degree Program for the A.S./B.S. in Computer Science and Information Security.” The motion was seconded and approved unanimously.

A motion was made to adopt program revisions marked “B4. Proposal to Revise the Certificate in Dispute Resolution”, B6, “Proposal to Revise the BA and Minor in Gender Studies”, B7, “Proposal to Revise the Minor in Human Rights Studies”, and B8, “Proposal to Revise the Minor in Writing”, as a slate. The motion was seconded and approved unanimously.

A motion was made to adopt program revision marked “B5. Proposal to Revise the Minor in Fire Science.” The motion was seconded and approved unanimously.

A motion was made to adopt new courses marked B9-B17 as a slate. The motion was seconded and approved unanimously.

A motion was made to adopt new courses marked B9-B17:

B9. BIO 3XX (360) Human Pathology
B10. BIO 3YY (364) Forensic Pathology
B11. CSL 2XX (227) Families: Stress, Resiliency and Support Systems
B12. ENG 1xx (133) Language and Justice (JCI)
B13. ISP 1XX (125) You Are What You Eat: Food and Culture in the U.S. (US Exp)
B14. ISP 1XX (101) Ways of Knowing: Interdisciplinary Perspectives on the Past (LP)
B15. LIT 1XX (135) Justice and Heroism (JCI)
B16. LLS 4XX (425) Senior Seminar in Latin American and Latina/o Studies
B17. TOX 3XX (336) Principles of Forensic Toxicology

The motion was seconded and approved unanimously.

A motion was made to adopt course revisions marked B18-B21 as a slate. The motion was seconded and approved unanimously.

A motion was made to adopt course revisions marked B18-B21:

B18. CHE 100 Preparation for General Chemistry
B19. ECO 213 Political Economy
B20. ECO 220 Intermediate Macroeconomics
B21. ECO 225 Intermediate Microeconomics

The motion was seconded and approved unanimously.

A motion was made to adopt course revision marked “B22. ENG 261 Video Production Basics.” The motion was seconded and approved unanimously.

A motion was made to adopt Gen Ed Re-Mapping marked “B23. LIT 130 King Arthur (Moving from I&S to LP).” The motion was seconded and approved unanimously.
A motion was made to adopt Academic Standard marked “B24. Proposal to Revise the Policy on Second Chance”. The motion was amended as follows: Pg. 252, “After a minimum absence of at least from 2 years for students who have been dismissed for academic reasons (other than academic dishonesty), or who have voluntarily “stopped-out” on academic probation, may seek readmission to John Jay College through this policy” and to include a requirement that the readmission committee have faculty representation on it. The amendment was seconded and approved.

In Favor: 44  Oppose: 5  Abstention: 4

V.  Report from the Committee on Graduate Studies (Attachments C1-C4)

A motion was made to adopt program revisions marked “C1. Proposal to Revise the MS in Forensic Science” and “C2. Proposal to Revise the MPA-Inspection and Oversight” as a slate. The motion was seconded and approved unanimously.

A motion was made to adopt new course marked “C3. FCM 7XX Cyber Risk Assessment and Management”. The motion was seconded and approved unanimously.

A motion was made to adopt course revision marked “C4. Changes to Existing Graduate Courses: PAD 700, PAD 704, and PAD 743”. The motion was seconded and approved unanimously.

VI.  Council Meeting Practices and Expectations: Report from the Executive Committee

The Executive Committee discussed the matters of (electronic handout) orientation for new members, attendance and vacancies, and alternates and distributed an electronic handout to the body. The Executive Committee of the College Council report is work done on behalf of the College Council and it is for information purposes only. The recommendations below do not require College Council support.

a.  Orientation for New Members

1.  There will be an orientation for new members at the beginning of the fall term, to take place prior to the first College Council meeting. The orientation will be open to all to attend. The Executive Committee of the College Council has proposed a three-bulleted agenda be distributed to new members covering the role, purpose and mission of the College Council. The agenda will be compiled by the Executive Committee of the College Council over the summer.

b.  Attendance and Vacancies

1.  We will keep attendance as required by law and provide attendance records to the College Council at the end of each semester. The Charter gives the Executive Committee the power and authority to declare vacancies. The Executive Committee has never had to address this issue before. When a vacancy occurs as determined by the EC, the Exec Committee shall notify the constituency (faculty, students or administration). If, 30 days after notification, the constituency fails to fill the vacancy, the Executive Committee shall appoint a representative of that constituency to fill the vacancy and that person serves the remainder of the term. The Executive Committee voted (10-1) to determine vacancies as follows:
2. Failure to attend 2 consecutive meetings, the EC will notify the appropriate constituency (academic department, Student Council, HEO Council or the President). If that member fails to attend a third meeting, the Executive Committee will declare a vacancy and ask the constituency to fill the vacancy within 30 days. If the constituent body fails to act, as per the Charter, the Executive Committee will fill the vacancy.

c. Alternates
   1. This item will be tabled for the next year. If there is need for further discussion regarding the role of alternates, the Executive Committee will re-visit the issue of alternates next year.

VII. Determination of the Need for the May 16, 2016 College Council Meeting

The additional College Council meeting on May 16, 2016 was cancelled.

The College Council meeting closed with celebratory refreshments.

The meeting was adjourned at 3:12 p.m.
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College Council Membership

The College Council shall be the primary governing body of John Jay College of Criminal Justice. It shall have authority to establish College policy on all matters except those specifically reserved by the Education Law or by the Bylaws of the Board of Trustees of The City University of New York to the President or to other officials of John Jay College or of The City University of New York, or to the CUNY Board of Trustees. The College Council shall consist of the following members:

Administration:
1. President (chairperson)        Jeremy Travis
2. Provost and Senior Vice President for Academic Affairs   Jane P. Bowers
3. Vice President for Finance and Administration          Steven Titan
4. Vice President for Student Affairs                     Lynette Cook-Francis
5. Interim Vice President for Enrollment Management       James Llana
6. Associate Provost for Strategic Initiatives and
   Dean of Graduate Studies                                Anne Lopes
7. Interim Associate Provost and Dean of Undergraduate Studies  Dara Byrne
8. Associate Provost and Dean of Research                  Anthony Carpi

Faculty:
   a. Full-time faculty elected from each academic department:
9. Africana Studies          Xerxes Malki
10. Anthropology             Terry Furst
11. Art and Music            Lisa Farrington
12. Communication and Theater Arts     Lorraine Moller
13. Counseling               Mickey Melendez
14. Criminal Justice         Frank Pezzella
15. Economics                Jay Hamilton
16. English                  Jonathan Gray
17. Health and Physical Education     Vincent Maiorino
18. History                  Fritz Umbach
19. Interdisciplinary Studies Department      Gerald Markowitz
20. Latin America and Latina/o Studies         Brian Montes
21. Law, Police Science, and Criminal Justice Administration  Yue Ma
22. Library                   Maria Kiriakova
23. Mathematics              Thurai Kugan
24. Modern Languages and Literatures     Aida Martínez-Gomez
25. Philosophy                Michael Brownstein
26. Political Science        Peter Romaniuk
27. Psychology               Thomas Kucharski
28. Public Management        Elizabeth Nisbet
29. Security, Fire and Emergency Management  Lauren Shapiro
30. Sciences                  Guoqi Zhang
31. SEEK                      Erica King-Toler
32. Sociology                 Rosemary Barberet

   b. At-Large Adjunct representative of the Faculty Senate:
33. Public Management        Joel Freiser

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c. Faculty allotted according to any method duly adopted by the Faculty Senate:

34. Anthropology  Anru Lee
35. English  Karen Kaplowitz
36. Latin American/Latina/o Studies & English  Belinda Rincon
37. Law, Police Science, and Criminal Justice Administration  Kashka Celinska
38. Law, Police Science, and Criminal Justice Administration  Maki Haberfeld
39. Library  Ellen Belcher
40. Library  Janice Dunham
41. Mathematics & Computer Science  Sven Dietrich
42. Psychology  Charles Stone
43. Public Management  Ned Benton
44. Public Management  Leigh Graham
45. Public Management  David Shapiro
46. Sciences  Artem Domashevskiy
47. Sciences  Francis Sheehan
48. Sciences  Daniel Yaverbaum
49. SEEK  Schevaletta (Chevy) Alford
50. Sociology  Louis Kontos

- Eight faculty alternates who may vote, make motions and be counted as part of the College Council’s quorum only during the absence of a permanent faculty representative:

<table>
<thead>
<tr>
<th>Andrea Balis, History</th>
<th>Avram Bornstein, Anthropology</th>
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<tbody>
<tr>
<td>Glenn Corbett, SFEM</td>
<td>Ric Curtis, Anthropology</td>
</tr>
<tr>
<td>Diana (DeeDee) Falkenbach, Psychology</td>
<td>Robert Garot, Sociology</td>
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<tr>
<td>Chuck Nemeth, SFEM</td>
<td>Rebecca Weiss, Psychology</td>
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Higher Education Officers elected by Higher Education Officers Council:
51. Sandrine Dikambi (ex officio)
52. Naomi Nwosu
53. Helen Cedeno
54. Sylvia Lopez
55. Michael Scaduto

- One Higher Education Officers alternate who may vote, make motions and be counted as part of the College Council’s quorum only during the absence of a permanent higher education officer representative.

VACANT

September 9, 2016
Students:
56. President of the Student Council                    Grace Theresa Agalo-os
57. Vice President of the Student Council              Roman Gressier
58. Treasurer of the Student Council                  Jahvar Duffus
59. Secretary of the Student Council                 Kadeem Robinson
60. Elected At-Large Representative                    Samantha N. Buan Ladines
61. Elected graduate student representative           Marline Wright
62. Elected graduate student representative           Mohammed Alam
63. Elected senior class representative                Izabela Qafa
64. Elected senior class representative                Marline Paul
65. Elected junior class representative                Kaniz Fatima
66. Elected junior class representative                Kimberly Ortega
67. Elected sophomore class representative            Jasmine Awad
68. Elected sophomore class representative            Mahtab Khan
69. Freshman representative designated according to a method duly adopted by the Student Council.

- Two (2) alternate student representatives, who vote, make motions and be counted as part of the College Council's quorum only during the absence of a permanent student representative.

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<th>1. VACANT</th>
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**College Council Interim Executive Committee**

The faculty, higher education officers and student representatives shall be elected by the College Council from among its members in September of each year. From June 1 until such time as the College Council holds this election, there shall be an Interim Executive Committee, which shall consist of the following members:

- President (chairperson)                                Jeremy Travis
- Provost and Senior Vice President for Academic Affairs  Jane P. Bowers
- Vice President for Finance and Administration           Steven Titan
- Vice President for Student Affairs                      Lynette Cook-Francis
- President of the Faculty Senate                        Warren Benton
- Vice-President of the Faculty Senate                    Francis Sheehan
- Two (2) other members of the Faculty Senate
  1. Karen Kaplowitz
  2. Chevy Alford
- President of the Higher Education Officers Council      Sandrine Dikambi
- Vice-President of the Higher Education Officers Council  Nikki Hancock-Nicholson
- President of the Student Council                        Grace Theresa Agalo-os
- Vice-President of the Student Council                    Roman Gressier

The faculty, higher education officer and student members of the Interim Executive Committee shall nominate College Council members of their respective constituencies as candidates for election to the Executive Committee.

September 9, 2016
Executive Committee of the College Council

There shall be an Executive Committee which shall be the College Council’s Agenda Committee. It shall have the power to call the College Council into extraordinary session, and shall have only such powers, functions, and duties as the College Council may delegate to it to exercise during periods when the College Council is not in session. The faculty, higher education officers and student representatives shall be elected by the College Council from among its members in September of each year. The faculty, higher education officer and student members of the Interim Executive Committee shall nominate College Council members of their respective constituencies as candidates for election to the Executive Committee.

The Executive Committee shall consist of the following members:

- **President (chairperson)**
  Jeremy Travis
- **Provost and Senior Vice President for Academic Affairs**
  Jane P. Bowers
- **Vice President for Finance and Administration**
  Steven Titan
- **Vice President for Student Affairs**
  Lynette Cook-Francis
- **Seven (7) members of the full-time faculty as defined in Article I, Section 3.a.i**
  1. Schevaletta (Chevy) Alford
  2. Andrea Balis
  3. Warren Benton
  4. Sven Dietrich
  5. Fritz Umbach
  6. Karen Kaplowitz
  7. Francis Sheehan
- **Two (2) higher education officers**
  1. Sandrine Dikambi
  2. Nikki Hancock-Nicholson
- **Three (3) students**
  1. Grace Theresa Agalo-os
  2. Roman Gressier
  3. Samantha Nicole Buan Ladines

Undergraduate Curriculum and Academic Standards Committee

There shall be a Committee on Undergraduate Curriculum and Academic Standards which shall consider all matters relating to the undergraduate curriculum of the College and make recommendations to the College Council on such matters as: proposed programs; additions, deletions and modifications of courses and existing programs; distribution; core requirements; basic skills; academic standards; and, policies pertaining to student recruitment and admissions.

The Committee on Undergraduate Curriculum and Academic Standards shall consist of the following members:

- **Interim Associate Provost and Dean of Undergraduate Studies (Chairperson)**
  Dara Byrne
- **Registrar**
  Daniel Matos
- **Executive Academic Director of Undergraduate Studies**
  Katherine Killoran

September 9, 2016
• The chairperson of each of the academic departments, or a full-time member of the faculty, as defined in Article I, Section 3.a.i of the Charter of Governance, who has served in that capacity at the College for at least one (1) year, to be elected from among the members of that department to serve for two (2) academic years.

1. Africana Studies
2. Anthropology
3. Art and Music
4. Communication & Theater Arts
5. Counseling
6. Criminal Justice
7. Economics
8. English
9. Health & Physical Education
10. History
11. Interdisciplinary Studies Program (ISP)
12. Library
13. Latin American & Latina/o Studies
14. Law, Police Science & CJA
15. Mathematics & Computer Science
16. Modern languages & Literature
17. Philosophy
18. Political Science
19. Psychology
20. Public Management
21. Sciences
23. SEEK
24. Sociology

C. Jama Adams
Emily McDonald
Erin Thompson
Bettina Murray
Ma’at Lewis
Chongmin Na
Ian Seda
Bettina Carbonell
Susan Larkin
Andrea Balis
Susannah Crowder
Ellen Sexton
Suzanne Oboler
Michael Puls
Maria Julia Rossi
John Pittman
Veronica Michel
Demis Glasford
Judy-Lynne Peters
Sandra Swenson
Glenn Corbett
Monika Son

• Three (3) students, each of whom have a cumulative grade point average of at least 3.0.
  1. Devin Ly
  2. Jasmine Awad
  3. Leslie Smith

Committee on Student Interests

There shall be a Committee on Student Interests which shall be concerned with matters of student life including but not limited to student organizations, student housing, extracurricular activities, and student concerns at the College. The Committee on Student Interests shall consist of the following members:

• Assistant Vice President and Dean of Students (chairperson) Michael Martinez-Sachs
  • Director of Athletics Carol Kashow
  • Director of The Center for Student Involvement and Leadership Danielle Officer

Fall: Carla Barrett
Spring: Barry Sprunt

September 9, 2016
• Two (2) members of the faculty
  1. Alexa Capeloto
  2. Nicole Elias
• Six (6) students
  1. Ashley Baxter
  2. Jashua Perez
  3. Agha Khan
  4. Melinda Yam
  5. Laura Rubio
  6. Brian Carvajal

**Faculty-Student Disciplinary Committee**

As set forth in Article XV of the Bylaws of the CUNY Board of Trustees, there shall be a Faculty-Student Disciplinary Committee which shall have primary jurisdiction in all matters of student discipline not handled administratively. The committee shall abide by the procedures required by Article XV of the Bylaws of the CUNY Board of Trustees. A Faculty-Student Disciplinary Committee shall consist of two (2) members of the faculty, two (2) students and a chairperson. As set forth in Article XV of the Bylaws of the CUNY Board of Trustees, the rotating panels shall be appointed as follows:

• The President shall select, in consultation with the Executive Committee, three (3) full-time members of the faculty, as defined in Article I, Section 3.a.i of the Charter of Governance, to receive training and to serve in rotation as chair of the Judicial Committee.
  1. Thurai Kugan-Mathematics and Computer Sciences
  2. Peggilee Wopperman-Psychology
  3. Robert McCrie-Law, Police Science, and Criminal Justice Administration

• Two (2) full-time members of the faculty, as defined in of the Charter of Governance, shall be selected by lot from a panel of six (6) members of the full-time faculty elected annually by the Faculty Senate.
  1. Heath Grant
  2. Liliana Soto-Fernandez
  3. vacant
  4. vacant
  5. vacant
  6. vacant

• The two (2) student members shall be selected by lot from a panel of six (6) students elected annually in an election in which all students registered at the College shall be eligible to vote.
  1. Ashley Baxter
  2. Marline Paul
  3. Leslie Smith
  4. Marina Saad
  5. Zachary Sizemore
  6. Ilim Sultanov

In the event that the student panel or faculty panel or both are not elected, or if more panel members are needed, the President shall have the duty to select the panel or panels which have not been elected. No individuals on the panel shall serve for more than two (2) consecutive years.

September 9, 2016
Committee on Faculty Personnel

There shall be a Committee on Faculty Personnel which shall review from the departments and other appropriate units of the College all recommendations for appointments to the instructional staff in the following ranks: Distinguished Professor, Professor, Associate Professor, Assistant Professor, Instructor, Distinguished Lecturer, Lecturer, Chief College Laboratory Technician, Senior College Laboratory Technician, and College Laboratory Technician, and make recommendations to the President. It shall also receive recommendations for promotions and reappointments with or without tenure, together with compensation, in the aforementioned ranks of the instructional staff and shall recommend to the President actions on these matters. It may also recommend to the President special salary increments. The President shall consider such recommendations in making his or her recommendations on such matters to the CUNY Board of Trustees.

Policy recommendations of the committee shall be made to the College Council for action. Recommendations with respect to appointments, promotions, and other matters specified in the paragraph above, shall be reported to the President and shall not be considered by the College Council except at the discretion of the President. The Committee shall receive and consider petitions and appeals from appropriate members of the instructional staff with respect to matters of status and compensation, and shall present its recommendations to the President. Further appeals shall follow CUNY procedures.

The Committee on Faculty Personnel shall consist of the following members:

- President (Chairperson)                Jeremy Travis
- Provost and Senior Vice President for Academic Affairs  Jane P. Bowers
- Associate Provost for Strategic Initiatives and Dean of Graduate Studies  Anne Lopes
- Interim Associate Provost and Dean of Undergraduate Studies  Dara Byrne
- Associate Provost and Dean of Research  Anthony Carpi
- Chairperson of each academic department
  1. Africana Studies  Carlton Jama Adams
  2. Anthropology  Anthony Marcus
  3. Art and Music  Ben Lapidus
  4. Communication and Theater Arts  Martin Wallenstein
  5. Counseling  Caridad Sanchez
  6. Criminal Justice  Evan Mandery
  7. Economics  Jay Hamilton
  8. English  Valerie Allen
  9. Health and Physical Education  Davidson Umeh
  10. History  Allison Kavey
  11. Interdisciplinary Studies Department  Richard Haw
  12. Latin American and Latino/a Studies  Lisandro Perez
  13. Law, Police Science and Criminal Justice Administration  Richard Curtis
  14. Library  Larry Sullivan
  15. Mathematics and Computer Science  Douglas Salane
  16. Modern Languages and Literatures  Silvia Dapia
  17. Philosophy  Jonathan Jacobs
  18. Political Science  James Cauthen
  19. Psychology  Angela Crossman
  20. Public Management  Maria D’Agostino
  21. Sciences  Larry Kobilinsky
  23. SEEK  Nancy Velasquez-Torres
  24. Sociology  Henry Pontell

September 9, 2016
Three (3) at-large full-time members of the full-time faculty from amongst those who hold the rank of tenured associate and/or tenured full professor, as defined in Article I, Section 3.a.i of the Charter of Governance.
1. Rosemary Barberet, Professor, Sociology
2. Kathleen Collins, Associate Professor, Library
3. Catherine Mulder, Associate Professor, Economics

Three (3) members of the faculty who receive the next highest number of votes in a general faculty election will be alternate faculty representatives on the committee. An alternate may vote, make motions and be counted as part of the quorum only when a chairperson and/or an at-large faculty representative is absent.
1. Mangai Natarajan, Professor, Criminal Justice
2. Michael Pfeifer, Associate Professor, History
3. Karen Terry, Professor, Criminal Justice

The Student Council may designate up to two (2) students, with at least 30 credits earned at the College, to serve as liaisons to the Review Subcommittees of the Committee on Faculty Personnel. The student liaisons shall be subject to College Council ratification. The role of the student liaisons shall be to review student evaluations of faculty members being considered by the subcommittees for reappointment, promotion and tenure and to summarize the content of those evaluations at a time designated by the Review Subcommittee. Student liaisons are not members of the Committee on Faculty Personnel.
1. VACANT
2. VACANT

**Budget and Planning Committee**

There shall be a Budget and Planning Committee which shall be responsible for reviewing budget information, making recommendations on the financial and budgetary matters of the College, and providing guidance on comprehensive and strategic planning for the College. The President, or his designee, shall make quarterly financial reports to the Budget and Planning Committee. The Budget and Planning Committee shall consist of the following members:

- President (chairperson)  
  Jeremy Travis
- Provost and Senior Vice President for Academic Affairs  
  Jane P. Bowers
- Vice President for Finance and Administration  
  Steven Titan
- Vice President for Student Affairs  
  Lynette Cook-Francis
- Interim Vice President for Enrollment Management & Associate Provost for Institutional Effectiveness  
  James Llana
- Assistant Vice President for Administration  
  Raj Singh
- Associate Provost for Strategic Initiatives and Dean of Graduate Studies  
  Anne Lopes
- Interim Associate Provost and Dean of Undergraduate Studies  
  Dara Byrne
- Associate Provost and Dean of Research  
  Anthony Carpi
- Interim Assistant Vice President for Financial and Business Services  
  Mark Flower
- President of the Faculty Senate  
  Warren Benton
- Vice President of the Faculty Senate  
  Francis Sheehan
- Chair of the Faculty Senate Fiscal Affairs Committee  
  Thomas Kucharski
- Vice Chair of the Faculty Senate Fiscal Affairs Committee  
  Karen Kaplowitz

*September 9, 2016*
• Chairperson of each academic department
  1. Africana Studies Carlton Jama Adams
  2. Anthropology Anthony Marcus
  3. Art and Music Ben Lapidus
  4. Communication and Theater Arts Martin Wallenstein
  5. Counseling Caridad Sanchez
  6. Criminal Justice Evan Mandery
  7. Economics Jay Hamilton
  8. English Valerie Allen
  9. Health and Physical Education Davidson Umeh
 10. History Allison Kavey
 11. Interdisciplinary Studies Department Richard Haw
 12. Latin American and Latina/o Studies Lisandro Perez
 13. Law, Police Science, and Criminal Justice Administration Richard Curtis
 14. Library Larry Sullivan
 15. Mathematics and Computer Science Douglas Salane
 16. Modern Languages and Literatures Silvia Dapia
 17. Philosophy Jonathan Jacobs
 18. Political Science James Cauthen
 19. Psychology Angela Crossman
 20. Public Management Maria D’Agostino
 21. Sciences Larry Kobiliansky
 23. SEEK Nancy Velasquez-Torres
 24. Sociology Henry Pontell
• Chairperson of the Higher Education Officers Council Sandrine DiKambi
• Two (2) higher education officer representative
  1. Michael Scaduto
  2. Nikki Hancock-Nicholson
• President of the Student Council or designee Grace Theresa Agalo-os
• Treasurer of the Student Council or designee Jahvar Duffus
• One (1) additional student representative Laura Rubio
• Two members of the non-instructional staff, as defined in Article XIV, Section 14.1 of the Bylaws of the CUNY Board of Trustees.
  1. Crystal Farmer
  2. Anthony Chambers

There shall be a Financial Planning Subcommittee of the Budget and Planning Committee which shall meet on a periodic basis in the development of the College’s Annual Financial Plan. The Financial Planning Subcommittee of the Budget and Planning Committee shall consist of the following members:

• Vice President of Finance and Administration (Chairperson) Steven Titan
  • Provost and Senior Vice President for Academic Affairs Jane P. Bowers
  • President of the Faculty Senate Warren Benton
  • Chair of the Faculty Senate Fiscal Affairs Committee Thomas Kucharski
  • Vice Chair of the Faculty Senate Fiscal Affairs Committee Karen Kaplowitz
  • Chair of the Council of Chairs Angela Crossman
  • Vice Chair of the Council of Chairs James Cauthen
  • One (1) representative chosen by the Council of Chairs Jay Hamilton

  September 9, 2016
The Assistant Vice President for Financial and Business Services Mark Flower and the Provost’s Senior Director for Academic Operations, Kinya Chandler shall staff the subcommittee.

There shall be a Strategic Planning Subcommittee of the Budget and Planning Committee which shall provide guidance to the President on comprehensive and strategic planning including development of major planning documents and accreditation studies, related process and outcome assessment and space planning. The Strategic Planning Subcommittee of the Budget and Planning Committee shall consist of the following members:

- **Associate Provost for Institutional Effectiveness (Chairperson)**: James Llana
- **Vice President of Finance and Administration**: Seteven Titan
- **Provost and Senior Vice President for Academic Affairs**: Jane P. Bowers
- **President of the Faculty Senate**: Warren Benton
- **Two (2) representatives chosen by the Faculty Senate**:
  1. Thomas Kucharski
  2. Charles Stone
- **Chair of the Council of Chairs**: Angela Crossman
- **Two (2) representatives chosen by the Council of Chairs**:
  1. Douglas Salane
  2. vacant
- **Chair of the Higher Education Officers Council**: Sandrine Dikambi
- **One (1) student representative**:
  1. Grace Theresa Agalo-os

The Director of Institutional Research, Ricardo M. Anzaldúa and the Director of Outcomes Assessment, Virginia Moreno shall staff the subcommittee.

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**Committee on Graduate Studies**

There shall be a Committee on Graduate Studies which shall be responsible for establishing general policy for the graduate programs, subject to review by the College Council. It shall have primary responsibility for admission, curriculum, degree requirements, course and standing matters, periodic evaluation of the graduate programs and for other areas of immediate and long-range importance to the quality and growth of graduate study. The committee shall also be responsible for advising on all matters relating to graduate student honors, prizes, scholarships and awards. The Committee on Graduate Studies shall review and approve program bylaws for each graduate program. Such bylaws shall then be submitted to the Executive Committee of the College Council for review and approval. Program bylaws may provide for co-directors after assessing factors such as program size and the interdisciplinary nature of the curriculum. The Committee on Graduate Studies shall consist of the following members:

- **Vice President for Enrollment Management**: James Llana
- **Associate Provost for Strategic Initiatives and Dean of Graduate Studies (chairperson)**: Anne Lopes
- **Assistant Vice President and Dean of Students**: Michael Martinez-Sachs
- **Chief Librarian**: Larry Sullivan
- **Graduate Program Directors**:
  1. Criminal Justice: Avram Bornstein
  2. Digital Forensics and Cybersecurity: Douglas Salane
  3. Forensic Mental Health Counseling MA/JD: James Wulach

September 9, 2016
Committee on Student Evaluation of the Faculty

There shall be a Committee on Student Evaluation of the Faculty which shall be responsible for a continuous review of faculty evaluation procedures; review of the design of the survey instrument; recommendations for the terms under which the instrument will be used; and for the development of guidelines which shall be submitted to the College Council for review. The Provost and Senior Vice President for Academic Affairs shall designate staff for the committee. The Committee on Student Evaluation of the Faculty shall consist of the following members:

- Four (4) full-time members of the faculty
  1. Keith Markus
  2. Aida Martinez-Gomez
  3. Francis Sheehan
  4. Daniel Yaverbaum

- Two (2) students
  1. Zachary Sizemore
  2. Fernando Andrade

The committee shall elect a chairperson from among its faculty members. Members shall serve for a term of two (2) years.

Provost Advisory Council

There shall be a Provost Advisory Council which shall provide a formal means for the Provost to consult with faculty leadership on matters of joint concern such as budget, faculty recruitment and development, and personnel policies and practices. The Provost Advisory Council shall consist of the following members:

- Provost and Senior Vice President for Academic Affairs (Chairperson) Jane P. Bowers
- Senior Director of Academic Operations, Office of the Provost Kinya Chandler
- President of the Faculty Senate Warren Benton
- Vice President of the Faculty Senate Francis Sheehan
- Chairperson of each academic department
  1. Africana Studies Carlton Jama Adams
  2. Anthropology Anthony Marcus

September 9, 2016
There shall be a Council of Undergraduate Program Coordinators which shall provide a formal means to represent the concerns of those responsible for undergraduate majors and shall provide a formal means for reviewing matters of concern such as program review and revision, staffing, curriculum development and the scheduling of courses. The Council of Undergraduate Program Coordinators shall consist of the following members:

- Interim Associate Provost and Dean of Undergraduate Studies (Chairperson)  
  Dara Byrne
- Coordinators of Undergraduate Majors
  1. Anthropology  
     Johanna Lessinger
  2. Cell & Molecular Biology  
     Jason Rauceo
  3. Computer Science and Information Security  
     Sven Dietrich
  4. Criminal Justice (B.A.)  
     Evan Mandery
  5. Criminal Justice (B.S.)  
     vacant
  6. Criminal Justice Management  
     Wendy P. Guastaferro
  7. Criminology  
     Louis Kontos
  8. Culture and Deviance Studies  
     Ed Snadjr
  9. Dispute Resolution  
     Maria R. Volpe
  10. Economics Concentration A  
     Catherine Mulder
      Economics Concentration C  
     vacant
  11. English  
     John Staines
  12. Fire and Emergency Services  
     Robert Till
  13. Fire Science  
     Robert Till
  14. Forensic Psychology  
     Fall: Angela Crossman
     Spring: Deryn Strange
  15. Forensic Science  
     Lawrence Kobilinsky

September 9, 2016
Committee on Honors, Prizes and Awards

There shall be a Committee on Honors, Prizes and Awards which shall make recommendations to the College Council for undergraduate student recipients. The Committee on Honors, Prizes and Awards shall consist of the following members:

- **Vice President for Student Affairs (Chairperson)** Lynette Cook-Francis
- **Assistant Vice President and Dean of Students** Michael Martinez-Sachs
- **Director of The Center for Student Involvement and Leadership** Danielle Officer
- **Three (3) full-time members of the faculty**
  1. Marta Concheiro-Guisan
  2. Vijay Sampath
  3. Valarie West
- **Three (3) students who have a minimum cumulative grade point average of 3.0 and who are not seniors**
  1. Brian Carvajal
  2. Mahtab Khan
  3. Katianna Laveaux

September 9, 2016
College-Wide Grade Appeals Committee

The college-wide grade appeals committee shall comprise five (5) tenured members of the faculty, who shall be nominated by the Faculty Senate and elected by the College Council. No more than one faculty member from any department may concurrently serve on the committee. The committee shall elect a chair from its own membership.

1. Thurai Kugan
2. Toy-Fung Tung
3. Vacant
4. Vacant
5. Vacant

College-Wide Assessment Committee

There shall be a campus-wide committee to coordinate assessment efforts for both student learning and institutional effectiveness, broadly understood. The purpose of assessment is continuous improvement of teaching, student learning, institutional effectiveness, and service to internal and external constituencies. The Committee comprises seven faculty members and three Higher Education Officers. The Director of Assessment is an ex officio member without vote. The Associate Provost for Institutional Effectiveness is the committee chair.

- Chairperson                                                    Marie-Helen Maras
- Co-Chairperson      Denise Thompson
- Director of Assessment      Virginia Moreno  
  (ex officio)
- Associate Provost for Institutional Effectiveness  James Llana  
  (ex officio)

- Seven (7) Full-time Faculty Members
  1. Lisette Delgado-Cruzata
  2. Marie-Helen Maras
  3. Maureen Richards
  4. Denise Thompson
  5. Jennifer Rutledge
  6. Vacant
  7. Vacant

- Three(3) Higher Education Officers
  1. Anila Duro
  2. Deborah Washington
  3. Rosann Santos-Elliott

September 9, 2016
Special Committee of the College Council

Committee on Faculty Elections

There shall be a Committee on Faculty Elections which shall conduct faculty elections. The committee shall be comprised of five (5) full-time members of the faculty, as defined in Article I, Section 3.a.i of the Charter. The Committee on Faculty Elections shall consist of the following members:

1. Chevy Alford
2. Maria Kiriakova
3. Ekaterina Korobkova
4. Hyunhee Park
5. Vacant

September 9, 2016
JOHN JAY COLLEGE OF CRIMINAL JUSTICE  
The City University of New York  
Undergraduate Curriculum and Academic Standards Committee

New Course Proposal Form

When completed, email the proposal form in one file attachment for UCASC consideration and scheduling to killoran@jjay.cuny.edu.

1. a. Department(s) or program(s) proposing this course   English

   b. Name and contact information of proposer(s)

       Jeffrey Heiman
       jheiman@jjay.cuny.edu
       212-237-8697

       Sara Whitestone
       swhitestone@jjay.cuny.edu
       212-237-4178

2. There are already two courses at the 200 level that engage students in the autobiographical/p
   a. Title of the course: Writing Workshop in Autobiography: An Eye on the Self

   b. Abbreviated title (not more than 30 characters including spaces to appear on student transcripts and in CUNYfirst) Autobiographical Writing

   c. Level of this course   _____100 Level   _____200 Level   X 300 Level   _____400 Level

   Please provide a brief rationale for why the course is at the level:
   Personal narrative experience: ENG 212, Introduction to Creative Writing, which is the Creative Writing Minor gateway course and has a personal narrative component, and ENG 245, Creative Nonfiction, which employs the option to use personal experience in Nature, Photo, Travel, and other types of descriptive writing. This 300-level autobiography course is designed to build on the skills developed in the Introduction to Creative Writing course.

   In accord with John Jay College approved guidelines for course levels (http://johnjay.jjay.cuny.edu/files/Guidelines_for_Course_Levels.pdf) this 300-level workshop will help students refine critical reading/interpretive skills through analysis of published works that illustrate the autobiographer’s choices (of event, of word, of detail, of length, of voice) as well as storytelling techniques/conventions useful in autobiography (setting, character, conflict,
dialogue). In the workshop sessions, students will hone their critical skills as they develop and deliver constructive criticism to their colleagues. The 300-level public critique helps writers recognize strengths in their own work and areas that need more thought.

Last, with its emphasis on revision and public dialogue, this course will promote refinement of written work and of students’ clear communication with their peers. A writing workshop requires students to be motivated, to be willing to write honestly about life experiences, and to engage collaboratively with others.

d. **Course prefix** to be used (i.e. ENG, SOC, HIS, etc.): ENG

3. **Rationale** for the course (will be submitted to CUNY in the Chancellor’s Report). Why should John Jay College offer this course? (Explain briefly, 1-3 paragraphs.)

The English Department currently offers writing courses in fiction, poetry, creative nonfiction, and journalism, but not yet in the area that attracts many contemporary writers (and readers), autobiographical and personal essay writing. (The personal narrative component of ENG 212, Introduction to Creative Writing, is at most a third of the course.) As a feature of the new Creative Writing Minor, the autobiography course will broaden the Department’s range of offerings and may help to draw students toward the English major and the minor. Because of the course’s workshop nature, the sharing of students’ diverse autobiographies will help promote John Jay’s mission to “question our assumptions, to consider multiple perspectives, to think critically, and to develop the humility that comes with global understanding.”

A workshop in autobiographical writing will address a need for proficiency in an area of expression that lies between academic/scholarly exposition and purely imaginative fiction or poetry. Doing so helps students, in the words of writing pedagogue Virginia Duym, “practice the various personal and communal voices they have brought with them and experiment with new variations of voice that will become more appropriate in academic discourse.”¹ This increased practice in personal written expression will strengthen skills in other areas of college writing. In a paper delivered to the Conference on College Composition and Communication, Xin Liu Gale asserts that autobiographical writing “indicates an author’s ability to make sense of his or her own experiences and to understand their significance to him or herself and to others, an ability that is indispensable in producing good academic writing.”² This course hopes to foster students’ ability to integrate their voices and experiences into their scholarly analysis and writing.

We don’t often think of autobiographical writing as part of a culture of learning outcomes assessment, but as writing scholars Schnee and Schwabe argue, “the carefully planned use of personal narrative must have a role [in academia] precisely because it most effectively engages students in the writing process, fosters critical thinking skills, and moves students toward the true ends of a college education and the very learning goals that national

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LOA initiatives have articulated."3 This course hopes to help students achieve those goals, using materials with which they are familiar—their lives—to build skills they will carry into new academic, intellectual and personal experiences.

4. **Course description** as it is to appear in the College Bulletin. (Keep in mind that this is for a student audience and so should be clear and informative; please write in complete sentences; we suggest not more than 75 words.)

The focus in this workshop is students’ own autobiographical writing. Clear voice and purpose evolve more naturally when subject matter draws nearest to familiar material, and source material for this course will be the most familiar yet often most slippery of subjects: their lives. In this course, students will learn to produce the sophisticated writing that, like the best autobiography/memoir, demonstrates mastery of a disciplined craft that demands both the closeness to reexamine and reveal and the distance to shape and refine a piece of writing into a smooth narrative arc. Students will also read the autobiographical writing of both professional writers and classmates to develop skills in critical analysis of this craft.

5. **Course Prerequisites or co-requisites** (Please note: All 200-level courses must have ENG 101 and all 300 & 400-level courses must have ENG 102/201 as prerequisites):

ENG 201, and ENG 212, Introduction to Creative Writing, the gateway course to the new Creative Writing Minor.

6. Number of:
   a. Class hours  __3__
   b. Lab hours  __0__
   c. Credits  __3__

7. Has this course been taught on an **experimental basis**?
   ____X____ No   _____ Yes. If yes, then please provide:
   a. Semester(s) and year(s):
   b. Teacher(s):
   c. Enrollment(s):
   d. Prerequisites(s):

8. **Learning Outcomes** (approximately 3-5 or whatever is required for mapping to the Gen Ed outcomes). What will the student know or be able to do by the end of the course? How do the outcomes relate to the program’s (major; minor) outcomes?

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Students will:
- Identify the conventions of the genre through reading of published autobiographical essays and each other’s work.
- Analyze professional writers’ creative choices in order to make more conscious choices in the composition of their own work.
- Display the critical skills necessary for productive critique and alert prose style.
- Work through several stages of revision toward a polished piece of writing.

Course outcomes align with Writing Minor outcomes, which include development of critical vocabulary, critical thinking skills, rigorous writing practices, and alertness to the writer’s own choices.

9. Will this course be part of any major(s), minor(s) or program(s)?
   _____ No  _____ X Yes
   If yes, Indicate major(s), minor(s), or program(s) and indicate the part, category, etc. (Please be specific)

   Elective in the English Major and Minor and in the Creative Writing Minor.

10a. Will this course be part of JJ’s general education program?  (remember to fill out the CUNY Common Core Form if part of Required or Flexible Core)
   No _____ X Yes ______  If yes, please indicate the area:

11. How will you assess student learning?
   - Workshop responses: Responding to their classmates’ writing will demonstrate students’ mastery of genre convention, conscious word choice, and informed critique.
   - Autobiographical writing: Their own creative writing will demonstrate students’ ability to shift the recognition of such conventions and choices into their own practice.
   - Revision: Rewriting will demonstrate students’ ability to respond effectively to critique and to build on their increasing understanding of the conventions of autobiographical narrative.

12. Did you meet with a librarian to discuss library resources for the course?
   Yes _____ X No ______
   - If yes, please state the librarian’s name  Marta Bladek
• Are there adequate resources in the library to support students’ work in the course?
  Yes____X____ No________

  Marta Bladek’s review of the course was positive. She concurred that the course would not need library resources, except for the occasional texts faculty might want to make available to students.

• Will your students be expected to use any of the following library resources? Check all that apply.

  ➢ The library catalog, CUNY+ _____
  ➢ EBSCOhost Academic Search Complete _____
  ➢ Electronic encyclopedia collections (e.g. from Gale; Sage; Oxford Uni Press) _____
  ➢ LexisNexis Universe _____
  ➢ Criminal Justice Abstracts _____
  ➢ PsycINFO _____
  ➢ Sociological Abstracts _____
  ➢ JSTOR _____
  ➢ SCOPUS _____
  ➢ Other (please name) ____________________________

13. Syllabus – see attached

14. Date of Department curriculum committee approval March 15, 2016

15. Faculty - Who will be assigned to teach this course? Sara Whitestone, Jeffrey Heiman, John Matteson

16. Is this proposed course similar to or related to any course, major, or program offered by any other department(s)? How does this course differ?
  _____No
  ___X__Yes. If yes, what course(s), major(s), or program(s) is this course similar or related to? With whom did you meet? Provide a brief description.

ISP 147, Life Stories, focuses on reading in memoir and biography and requires brief autobiographical writing. The stated goal of Life Stories is as follows: “The emphasis in this course is on the effects of socio-economic and historical forces on the decisions, ethical choices, and actions individuals make” (from the syllabus).

The Workshop in Autobiography we are proposing differs greatly in that it is centered on students’ own observations of self (including environment and personal history) and on storytelling techniques. As a craft course it brings students to view personal narrative writing as a “disciplined craft that demands both the closeness to reexamine and reveal and the distance to shape and refine a piece of writing into a smooth narrative arc” (from the proposed course description).
17. Did you **consult** with department(s) or program(s) offering similar or related courses or majors?
   ____ Not applicable
   ____ No
   ____ X Yes. If yes, give a short summary of the consultation process and results.

Reviewed ISP 147 syllabus and discussed course policies and points of focus with course instructor Amy Green. Communicated with ISP Department Chair, Richard Haw, who responded positively toward the course.

18. Will any course be **withdrawn**, if this course is approved?

   ____ X No
   ____ Yes. If yes, number and name of course(s) to be withdrawn.

19. Approvals:

   Allison Pease
   Chair, English Department
SAMPLE SYLLABUS, English 3
Writing Workshop in Autobiography: An Eye on the Self

John Jay College of Criminal Justice
Department of English
Instructor(s): Jeffrey Heiman
Sara Whitestone
John Matteson

524 W. 54th St., 7th Floor
NY NY 10019
Prerequisites: ENG 101, ENG 201,
ENG 212
Class meeting day(s)/time:
Office:
Phone:
Email:

Course Description

The focus in this workshop is students’ own autobiographical writing. Clear voice and purpose evolve more naturally when subject matter draws nearest to familiar material, and source material for this course will be the most familiar yet often most slippery of subjects: their lives. In this course, students will learn to produce the sophisticated writing that, like the best autobiography/memoir, demonstrates mastery of a disciplined craft that demands both the closeness to reexamine and reveal and the distance to shape and refine a piece of writing into a smooth narrative arc. Students will also read the autobiographical writing of both professional writers and classmates to develop skills in critical analysis of this craft.

In addition to guided in-class exercises, students will write approximately thirty pages of autobiographical prose during the semester, sharing their work regularly with other members of the class. Writing in the first half of the semester will follow structured assignments, and from this body of work students will select the two principal pieces to refine during the second half of the semester.

Learning Goals

This course proposes to help students discover their writing voices through the reading and crafting of autobiographical prose. Students will also have the opportunity to:

- Identify the conventions of the genre through reading of published autobiographical essays and each other’s work.
- Analyze professional writers’ creative choices in order to make more conscious choices in the composition of their own work.
- Develop the critical skills necessary for productive critique and alert prose style.
- Work through several stages of revision toward a polished piece of writing.
Required Texts and Materials

ISBN: 978-0143035749

ISBN: 978-0802136688

ISBN: 978-0060927639

You’ll also need:
- to photocopy your work for each workshop participant, so you’ll have to reserve enough money on your college account or find a copier/OR upload your work to Blackboard as directed by your instructor
- access to a printer
- a dictionary (paper or digital – dictionary.com is a good one)
- a small notebook to keep with you at all times and write in constantly
- a folder in which to keep all of your work

General Requirements and Information

Reading: Each class meeting will begin with analysis of a short work by one of the writers on the text-list (or handout). As the readings are intended to illustrate how writers make their choices, discussions will focus on issues of content, pacing, image, tone, diction and many elements involved in the construction of autobiographical narrative.

Writing: This is the primary work of the course, and you should do it all the time: on the train, at meals, over coffee, in bed, while walking on the street. Since you don’t want to have to keep track of all the napkins and deli bags that are closest to hand when inspiration comes upon you, get a small notebook and keep it in your pocket during the day and beside your bed at night (the bedside because you know how much occurs to you as you reflect on the day just ending). This notebook will be the place, perhaps the only place, where there is absolutely no judgment of your work. Record everything: childhood scenes, remembered pleasures, fears, insights, humiliations, anger, loves, conversations. Write down reactions to people, events, art, sports, politics, street scenes, books…you get the idea. Write! Much of your course writing you’ll draw from these notebook entries.

The formal requirement for this workshop will be four autobiographical essays: two 5-page essays and two 10-page essays.

Participation and Timely Completion of Work: This is your course; it goes nowhere without your active participation. You’ll be expected to offer your insights, questions, and (literary) pleasures during discussion of texts and your constructive feedback during the class critiques of your fellow students. From my perspective there are no bad questions or comments and there is truth to find in every response. However, there is no acceptable excuse for not having your work completed on time. We’ll work together to set writing anxieties aside. For now, don’t worry about publication; just get your words on paper, make copies, and bring them to class Do not come unprepared on your day to read.
Attendance/Lateness: Simple policy: don’t miss class and don’t be late. You get nothing out of a workshop if you don’t attend, and you deprive others of your useful input. If you must miss a class, notify me by email in advance of the day. On your fifth absence, I’ll lower your final grade by two-thirds: e.g., B to C+. On your sixth, I’ll invite you not to come back to the course. More than five minutes late is late. If you’re late (which you won’t be), come in very quietly and explain yourself at end of class. I’ll record two late entrances as one absence.

Writing Workshop Format: A writing workshop provides hands-on, practical experience in receiving careful, constructive criticism of your work and giving the same to others. We’ll make a schedule so there will be time to read and discuss each participant’s work in class. All work must be printed, photocopied for each participant and handed in one class meeting before the scheduled reading date OR uploaded onto Blackboard if instructed. All participants will respond orally to the work under discussion and also provide written reactions and suggestions for revision. At the end of class, participants will give their written responses to the writers. Writers will then use these comments to re-think and revise their work.

Plagiarism: It might seem odd to speak of plagiarism in the context of autobiography, since someone else’s life is not your life. Surely the ideas and perspectives of other writers will create possibilities for you, but leave their sentences and word choices to them. Find your own. Plagiarism is theft, and it can’t possibly help you become a more creative writer. Consult the John Jay College Bulletin for a fuller discussion of the issue. You’ll read that plagiarism is “the act of presenting another person’s ideas, research or writings as your own.” Easy internet access to other people’s “ideas, research and writings” may make it seem as though the material is in the public domain. It is not. Preserve your integrity: don’t plagiarize.

Grades: Your talent is not graded. Everything else is. It is usually not difficult to determine whether a writer has dashed off something the hour before it’s due or has taken time to bring in a more considered piece of work. Each revised 10-page autobiographical essay will count for 25% of your course grade (50% in total). Each 5-page essay will count for 10% percent of the grade (20% in total). Active class participation and thoughtful written critiques of colleagues’ work will count for the remaining 30% of the course grade. Note well: Revising your work does not just mean correcting grammar or changing the color of your father’s shirt. Revision is a thorough process in which you use colleagues’ comments (and your own insights) to re-examine your work so that the revised piece speaks more truthfully of your (and its!) intentions. Maybe you’ll have to throw some parts away; maybe you’ll have to remember more about events or see from new angles of view.

| 5-page Essay #1 | 5-page Essay #2 | 10-page Essay #1 | 10-page Essay #2 | Class Participation and Critiques |

Approved by UCASC, May 20, to College Council, Sept 2016
Schedule of Classes

Each week’s two meetings will be divided unevenly into three parts: 1) Analysis of texts; 2) guided writing exercises; 3) presentations by class members/critique of work. On the day of your presentation, you must make a copy of your work for each member of the class and for instructor. We’ll schedule at least two private conferences during the semester.

Week One
- Introduction: What’s in a story?
- Why write about yourself?
- Brief History of Autobiography
- Principles of the Writing Workshop / How to critique colleagues’ work
- Reading: “Suspended” by Joy Harjo (handout)
- Reading: “Mint Snowball” by Naomi Shahib Nye (handout)
- In-Class Exercise: The Telling Detail
  (and how to find it)
- Students begin first autobiographical essay

Week Two
- Reading / Discussion: “The Library Card” by Richard Wright (handout)
- In-Class Exercise:
  POV on the Self: Van Gogh’s Shoes
- First autobiographical essay due (5 pages)
- Begin student presentations and critiques
- In-Class Exercise:
  Detail: Skin, Face, Body of Others and Self
- Discussion: What are the elements of autobiographical significance?

Week Three
- Reading: from Modern American Memoirs
  (Harry Crews, pgs 1-18 and Russell Baker, pgs 49-67))
- In-Class Exercise: Through Detail to the Self
- Scheduled readers critiqued
- Begin second autobiographical essay
- In-Class Exercise: Finding the Story

Week Four
- Reading: from Modern American Memoirs

Approved by UCASC, May 20, to College Council, Sept 2016
(Maureen Howard, pgs 68-79 and
Richard Selzer, pgs 100-107)
-In-Class Exercise: One Character is Not Another
-Scheduled readings and critiques
-Second autobiographical essay due

Week Five
-Reading / Discussion: This Boy’s Life
  by Tobias Wolff (pgs 4-91)
-In-Class Exercise: What Makes a Scene? (“Don’t
  make a scene,” my mother whispered.)
-Scheduled readings and critiques
-Begin third autobiographical essay due

Week Six
-Reading / Discussion: This Boy’s Life (95-end)
-In-Class Exercise: The Right Dialogue (“You talk too much” or “You’re awfully quiet today”)
-Scheduled readings and critiques
-Third autobiographical essay due

Week Seven
-Reading: from Modern American Memoirs
  (John Edgar Wideman, pgs 407-415)
-In-Class Exercise: Pacing and Tension
-Scheduled readings and critiques
-Begin work on first principal essay

Week Eight
-Reading: from Modern American Memoirs
  (Zora Neale Hurston, pgs 390 – 395
  and Geoffrey Wolff, pgs 280-296)
-Scheduled readers and critiques

Week Nine
-Reading / Discussion: The Liars’ Club
  by Mary Karr (pgs. 3-174)
-Scheduled readers and critiques
-Students continue work on first principal
  autobiographical essay
-Discussion: (reprise) elements of
  autobiographical significance

Week Ten
-Reading / Discussion: The Liars’ Club
  (pgs 177 – end)
-Scheduled readers and critiques
-First principal essay competed

Approved by UCASC, May 20, to College Council, Sept 2016
Week Eleven
- Reading: from *Modern American Memoirs*  
  (Maxine Hong Kingston, pgs. 231-247)
- Scheduled readers and critiques
- Begin work on second principal essay

Week Twelve
- Reading: from *Modern American Memoirs*  
  (Richard Wright, pgs 178-192)
- Scheduled readers and critiques

Week Thirteen
- Reading: from *Modern American Memoirs*  
  (Barry Lopez, pgs 372-389)
- Scheduled readers and critiques

Week Fourteen
- Reading: from *Modern American Memoirs*  
  (Ralph Ellison, pgs 280-287)
- Scheduled readers and critiques
- Second principal essay completed

During the Final Exam
- We will hold an in-class reading where students share selections of their polished works.
Proposal for a Major in Mathematics
Leading to the
Bachelor of Science Degree

Department of Mathematics and Computer Science
John Jay College of Criminal Justice
City University of New York

[Version 1.5, 08/19/16]

Anticipated Implementation of Program: Fall 2017

Dates of College Governance Approval:

  College Council:
  Undergraduate Curriculum and Academic Standards Committee: May 20, 2016
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A. Executive Summary

The Department of Mathematics and Computer Science proposes a new B.S. in Mathematics with concentrations in Data Science and Cryptography. Data Science plays a critical role in analyzing large data sets which may have valuable information that is obscured by the sheer volume of the data itself. In the Data Science concentration, students will learn the principles of data representation, big data management, and statistical modeling. They will also be able to use computers to reveal hidden causal and temporal relationships in large data sets. Companies are now seeking employees with the skills to build and query large data sets and to understand how to ask the right questions in order to extract critical, usable knowledge. Cryptography is the science of data security, both personal and institutional, and as such is also an important component of justice. In the Cryptography concentration, students will learn to secure information which is achieved by assuring privacy as well as other properties of a communication channel, such as data integrity, authenticity, and non-reputability, depending upon the application. They will devise systems for companies to resist the unwarranted intrusions of hackers, to protect internal company and consumer data, and to act as consultants to research staff concerning the implementation of cryptographic and mathematical methods. Despite strong employment prospects, the proposed program may be one of the few, if not the only one, in North America that offers a concentration in Cryptography.

The proposed program will contribute to New York's burgeoning status as a center for technological advancement and information science. The New York City metropolitan region is on its way to becoming a major technological hub that rivals California’s silicon valley. The mayor, William DeBlasio, as well as his predecessor, Michael Bloomberg, along with the governor, Andrew Cuomo, have tied the future economic well-being of both the city and state to the continued growth of environmentally friendly high-tech commercial ventures. They have all endeavored to reposition New York City as a nexus of technological innovation and discovery as well as a haven for entrepreneurial leadership. The National Science Foundation (NSF) in its Mathematical Sciences Innovation Incubator (MSII) initiative has identified modern communication, transportation, medicine, manufacturing, security, and finance as fields that will depend on the mathematical sciences for innovation and the development of new technology and information science. Security and finance, in particular, are presently the major users of data science techniques and cryptography, and evidence suggests that their reliance on them will continue to grow thereby providing robust employment opportunities. These sectors, with the possible exception of manufacturing, already have a significant footprint in the New York City metropolitan area. In order for them to continue to flourish and to remain domiciled in the New York City metropolitan region, an adequate base of well-educated individuals must be available and renewable. The proposed program will contribute to the need for mathematicians to sustain continued economic growth in these sectors.
The proposed program is also poised to increase workforce participation of traditionally under-represented groups in Science, Technology, Engineering, and Mathematics (STEM) disciplines. Careers in communication, transportation, medicine, security, and finance, offer multiple pathways to advancement and higher rates of remuneration that eventually lead to middle class status, often a prized goal of first generation college students. John Jay College is a notable minority serving institution since approximately 60% of its undergraduates identify with historically minority ethnic groups. Furthermore, approximately 40% of the student body is Hispanic. Consequently, John Jay is in a commanding position to increase diversification within the STEM disciplines one of which is mathematics.

The curriculum is designed to facilitate student advancement towards graduation. It consists of four segments consisting of foundation courses (15 credits), mathematics core courses (18 credits), a concentration (12 credits) in either Data Science or Cryptography, and electives (6 credits). Consequently, to fulfill the requirements of the major, a student must complete 51 credits which conforms well with the other robust majors of the college and other mathematics majors within CUNY. Once a student has completed the first year requirements, nearly all of the core courses and the elective offerings may be taken in parallel thereby expediting progress towards graduation. With many employment opportunities available, data suggest that graduates are expected to find placement within a relatively short time. Those that do continue on to graduate school will find that they have been well prepared, as will be demonstrated below.

Given the popularity of the existing mathematics minor, there is every reason to believe that Mathematics will be a major that is in demand by STEM disposed students. The faculty talent to staff the courses in the proposed mathematics major is already in place. In fact, since relatively few upper division courses are offered each semester when compared with the department’s total teaching footprint, one can say with confidence that the full potential of the existing faculty is yet to be realized. With concentrations in Data Science and Cryptography, the proposed Mathematics major would be a natural complement to the forensic curricula already in place at the college and serve to further support John Jay’s mission of “educating for justice.”
B. Abstract

The Mathematics and Computer Science Department at John Jay College of Criminal Justice proposes a major in Mathematics with concentrations in Data Science and Cryptography leading to a Bachelor of Science degree. In the Data Science concentration, students will learn the principles of data representation, big data management, and statistical modeling. They will also be able to use computers to reveal hidden causal and temporal relationships in large data sets. Companies are now seeking employees with the skills to build and query large data sets and to understand how to ask the right questions in order to extract critical, usable knowledge. Cryptography is the science of data security, both personal and institutional, and as such is also an important component of justice. In the Cryptography concentration, students will learn to secure information which is achieved by assuring privacy as well as other properties of a communication channel, such as data integrity, authenticity, and non-reputability, depending upon the application. They will devise systems for companies to resist the unwarranted intrusions of hackers, to protect internal company and consumer data, and to act as consultants to research staff concerning the implementation of cryptographic and mathematical methods. Supported by the faculty resources already on hand, the curriculum offers an integrated academic program with the depth and breadth necessary to make students truly competitive in the job market. Both concentrations provide the knowledge and skills that are in demand in high tech entrepreneurship, finance, modern communication, medicine, security, transportation, and manufacturing. New York City is in the process of being repositioned as a nexus of technological innovation and discovery as well as a haven for entrepreneurial leadership. One important requisite for achieving such a transformation is the availability of a renewable work force possessing skills in data analysis and security from which new enterprises can fill their personnel needs. The proposed major in Mathematics addresses this requirement.

The proposed undergraduate program is the first of its kind to emphasize Data Science and Cryptography. It is rigorous yet flexible. Although the major is unique, both the required number of credits and the required courses are comparable to other undergraduate mathematics curricula within CUNY and across the United States. No doubt most graduates of the mathematics major will seek employment immediately upon graduation which is the path for the majority of John Jay graduates. Employment data suggest that graduates will find career placement within a relatively short time. However, for students who opt to pursue graduate study either at the masters or doctoral level, the major’s curriculum will provide the foundation necessary for students to succeed in their post graduate endeavors.
C. Purpose and Goals of the Program

The proposed Mathematics major with concentrations in Cryptography and Data Science aligns with the mission of John Jay College of Criminal Justice to provide a liberal arts curriculum that “…equips students to pursue advanced study and meaningful, rewarding careers in the public, private, and non-profit sectors,” in the context of professional programs that “…introduce students to foundational and newly emerging fields and prepare them for advancement within their chosen professions.” The proposed major also supports the college's stated commitment “to educating traditionally underrepresented groups” and increasing diversity in the workforce. It also supports other dimensions of the mission, including preparing students for “ethical leadership…, global citizenship,” and “transformative scholarship.”

The mayor of New York City, William DeBlasio, his predecessor, Michael Bloomberg, and the governor of New York State, Andrew Cuomo, have all sought to reposition New York City as a nexus of technological innovation and discovery as well as a haven for entrepreneurial leadership. With its concentrations in Data Science and Cryptography, the proposed major will contribute to achieving such a transformation by preparing a skilled workforce from which new enterprises can fill their personnel needs. Indeed, the proposed program is one of the few in North America that offers a concentration in Cryptography.

The proposal aligns well with both the mission of John Jay College and the CUNY Master Plan with respect to workforce development in many respects. The proposed major offers a choice of two concentrations, Data Science and Cryptography. Data Science plays a critical role in analyzing large data sets which may have valuable information that is obscured by the sheer volume of the data itself. Data Science has an important role in the pursuit of justice and homeland security. Often hidden information is benign, merely a description of market trends or personal preferences. But sometimes what is not in plain view might be evidence of crimes that have already been committed, which is often the case in the financial sector, or an indication of events yet to unfold, especially when attempting to interdict and thwart an incipient terrorist attack whether it be in the physical realm or in cyberspace. The net cost of recovery is often incalculable whether the aftermath is emotional trauma, financial loss, or the destruction of tangible assets, especially when human life hangs in the balance. Plainly, Data Science has an important role in the pursuit of justice and homeland security. Cryptography is the science of data security, both personal and institutional, and as such is an important component of justice. Graduates specializing in cryptography will be the guardians and managers of sensitive commercial information and classified intelligence, which is one of the pillars of national defense. Nowadays, most communications are encrypted so that either knowingly or unknowingly every individual engages cryptographic algorithms daily. The pursuit of justice often demands that law enforcement have the requisite legal capabilities to decrypt personal and institutional communications. Thus Cryptography has a prominent role in assuring that justice is
well served albeit with the concurrent ethical concerns that citizens’ rights are protected. Both Data Science and Cryptography frequently deal with the retrieval of evidence, the former from large data sets when there is reason to believe that illegal activity has taken place or the latter when there is suspicion that an encrypted communication contains information affecting institutional or national security. There is a process of determining who was the malefactor and what sort of harm could have potentially been caused. But there is also a legal process that must be followed assiduously to ensure that the evidence retrieved is usable in a court of law. Finally, Mathematics has long been a staple of liberal arts colleges, including institutions with a humanities focus, because it is the language of science and as such facilitates the building of bridges between the sciences and the humanities. Mathematics graduates will be professional critical thinkers and analysts, and their skills will play a critical role in the service of justice.

The skills provided by the proposed major are essential for engaging with the increasingly complex systems that affect how our world operates today. Automated systems based on machine learning also play a critical role in our social and economic lives. Under the moniker of “big data,” organizations use these systems to discover insights and generate predictive models that take advantage of the enormous troves of data they can now capture. As a recent article suggests, these systems are pervasive and affect everything from the ads we see on digital devices to our ability to get credit. ([http://www.wired.com/insights/2014/03/use-data-tell-future-understanding-machine-learning/](http://www.wired.com/insights/2014/03/use-data-tell-future-understanding-machine-learning/)) Yet, very few people, even among those responsible for designing and deploying these systems, understand how these systems work, their limitations and the consequences of using automated systems for critical decisions. ([https://www.linkedin.com/pulse/unintended-consequences-negative-impact-new-machine-learning-lebanon](https://www.linkedin.com/pulse/unintended-consequences-negative-impact-new-machine-learning-lebanon)). In the Data Science specialization, students will examine the methods behind machine learning systems and learn to view them critically. They will understand that these systems frequently are based on heuristics, not proven algorithms. Often, unlike with traditional statistical techniques, there is no proven way to quantify a level of confidence in the results they produce. Students will understand, for example, that in most cases there is no standard method to determine if a learning system has seen enough test data to make reliable predictions on real data. Moreover, students will also understand that mathematically based systems for reasoning and belief can change and are still open areas of research in the Artificial Intelligence Community. The data analytics specialization will enable students to understand the advantages, limitations and possible consequences of using machine learning based systems. This undergraduate experience will encourage students to learn more about the field and possibly become involved in research in the area.

Concerning workforce development, a bachelor’s degree in Mathematics provides access to a variety of entry level positions across a wide spectrum of commercial ventures at very competitive rates of remuneration. The National Association of College and Employers
September 2013 Salary Survey\(^1\) compiled employment data for recent graduates of the class of 2013 from the Bureau of Labor Statistics, the Census Bureau, the New York State Department of Labor, and Job Search Intelligence. The median starting salary for mathematics and statistics majors entering the workforce was $47,900, with the middle 50% earning in the $40,000 to $58,000 range. They performed better than science majors in general, as well as humanities and social sciences majors. It is worth noting that only computer science and computer information systems majors had higher starting median salaries ($58,000 and $52,000, respectively).

The survey found that a plurality (13,800 graduates) of mathematics and statistics majors entered educational services, a many-faceted field that is projected to face a severe shortage of qualified personnel in the near and long term. Individuals from traditionally under-represented groups are especially in demand and John Jay College’s diverse student population would be a significant source of qualified minority candidates that choose careers in education. The next two most popular employment categories for these majors were finance and insurance (3,300 graduates), and professional, scientific, and technical services (3,200 graduates). It is worth noting, however, that this survey does not distinguish mathematics education majors from more traditional mathematics majors. Median starting salaries for all three categories were more or less the same ($48,600-48,900 on average).

Other findings corroborate this evidence that Mathematics majors become high achievers in the workforce. *What’s It Worth?* a May 2011 report from the Center on Education and the Workforce at Georgetown University, also drew on data from the Census Bureau. Data for this report reflect individuals in the national workforce who earned bachelor’s degrees but not graduate degrees unless otherwise stated.

Applied mathematics majors made up 0.05% of the college-educated workforce whereas (pure) mathematics majors made up 1%. Applied mathematics majors had a median income of $76,000, with the middle 50% in the $49,000 to $101,000 range; mathematics majors had a median income of $67,000, with the middle 50% in the $42,000 to $100,000 range. Both programs had significantly higher median earnings than any other majors (e.g. humanities and liberal arts, law and public policy, physical sciences, and social sciences) with the sole exception being engineering where the median income was $75,000.

The study describes mathematics majors as being more widely distributed across industries than most other majors: 17% of majors find employment in finance, 17% in professional industries, 15% in education, 9% in durable manufacturing, and 6% in retail, with the remainder in other sectors. Applied mathematics majors were similarly distributed across industries: 18% obtain positions in finance, 15% in professional industries, 11% in transportation, 10% in education,

and 8% in durable manufacturing, with the remainder in other industries. Within these industries, the plurality (33% of applied mathematics majors and 26% of pure mathematics majors) works with computers to varying degrees while the next largest group works in management (19% and 17%, respectively).

About half of mathematics majors (52% of applied mathematics and 47% of pure mathematics) go on to earn a graduate degree. The unemployment rate for both was merely 5%. The Bureau of Labor Statistics reports that the number of jobs in mathematics-based occupations (actuary, mathematician, operations research analyst, and statistician) will grow as fast as the job creation average or faster during the decade from 2010 to 2020.
D. Need and Justification

The proposed Mathematics major will support key initiatives to develop the city and state of New York. The New York City metropolitan region is on its way to becoming a major technological hub that rivals California’s Silicon Valley. The mayor, William DeBlasio, as well as his predecessor, Michael Bloomberg, along with the incumbent governor, Andrew Cuomo, have tied the future economic well-being of both the city and state to the continued growth of environmentally friendly high tech commercial ventures. The National Science Foundation (NSF) in its Mathematical Sciences Innovation Incubator (MSII) initiative has identified modern communication, transportation, medicine, manufacturing, security, and finance as fields that will depend on the mathematical sciences for innovation and the development of new technology and information science. These sectors, with the possible exception of manufacturing, already have a significant footprint in the New York City metropolitan area. In order for them to continue to flourish and to remain domiciled in the New York City metropolitan region, an adequate base of well-educated individuals will be an indispensable resource that must be available and renewable. Historically, the City University of New York (CUNY) has been one of the major sources of college educated employees for local businesses. Therefore, it is reasonable to say that a substantial part of the need for mathematicians that will help to sustain continued economic growth in these sectors will be met by CUNY graduates. Economic growth is also achieved by enticing business to the city or its environs and workforce availability is one of the prime considerations of any corporation contemplating to relocate.

Security and finance are presently major users of data science techniques and cryptography, and it is expected that their reliance on them will continue to increase thereby fostering further employment opportunities. Mathematics is a robust discipline whose utility is recognized by many other commercial sectors. Specific careers that are open to mathematics majors regardless of concentration are listed below along with corresponding minimum salaries; more information is available at www.weusemath.com and www.careercast/jobs-rated/best-jobs-2016. Those careers that necessitate a graduate degree, a certificate, or further training are marked with an asterisk.

- actuary: $55,780
- air traffic controller*: $64,930
- architect*: $44,600
- attorney*: $54,310
- budget analyst: $45,720
- cryptanalyst: $38,930
- foreign exchange trader: $90,008
- forensic analyst: $32,200
- inventory control specialist: $55,230
Currently positions are available at all credential levels, (that is, B.S, M.S., and Ph.D.), both in Data Science and Cryptography. In fact, most postings of available positions seek expertise in either one of these fields or both. Consequently, graduates that initially decide to enter the workforce still have the advantage of a long career track if they choose to further their education at a later date. Not only will our graduates have all the skills necessary to perform any task which requires an ordinary mathematics degree, they will also be well positioned for further training in digital forensics and cybersecurity with significant coding ability and deep knowledge of cryptographic protocols. Those students that opt to pursue a graduate degree will be more than adequately prepared. In particular, either of the major’s specializations provide a pipeline to John Jay’s master’s program in Digital Forensics and Cyber Security as well as other quantitative master’s degrees.

Quite a few positions are posted under the title “data scientist” and a representative sampling from the website Kaggle (http://www.kaggle.com/jobs) using the filter “New York, NY” follow. Broadening the search to the surrounding metropolitan area expands the number of opportunities multiple times.

- **Ladders, Lead Data Scientist, New York, NY.** Ladders is a data driven response website that helps people “manage, market, and move-up in their careers…
- **First Access, Senior Data Scientist.** First Access is a New York based data analytics company that sells an instant risk assessment to financial institutions worldwide…
- **Berkeley Research Group, Data Science Consultant, Washington, DC, New York, NY, Los Angeles, CA.**
- **Murmuration, Director of Data Science.** Looking for an experienced innovated director of Data Science…
- **Data Scientist/Data Analyst, Mitre Corporation, McLean, VA and Bedford, MA.** Applying data analytics to real world problems. Seeking a motivated creative data scientist to apply cutting edge tools and techniques to problems facing the US government.
- **Univision Communications, Manager-Data Analytics.** Position based in New York, NY office. Five years experience in related digital field: data science.
- **Sendence, Data Engineer, New York City.** Building a comprehensive data platform initially targeted at the financial industry… including time series data. BS, MS, PhD in
Although few positions are posted under the title “cryptographer,” our students are an excellent fit for positions entitled “security engineer” or “security architect.” A sampling of the postings on the websites Indeed (http://www.indeed.com/q-Cryptography-jobs.html) and Payscale (http://www.payscale.com/research/US/Job=SecurityArchitech.IT/Salary) shows a robust employment environment. Some specific illustrations just from Manhattan alone make the point:

- **Systems Security Engineer;** Healthfirst; Strong experience and detailed technical knowledge in security engineering, system and network security, authentication and security protocols, *cryptography*, …
- **Head of Cyber Security at Growing/Funded eCommerce Start Up;** CyberCoders: $120,000-$175,000 per year; Ecommerce Cyber Security, PCI compliance, *Cryptography*, Encryption, Security Standards/Technologies, Penetration Testing, Incident Response, Network Defense,…
- **Technology-Technology Risk-Application Security Architect;** Goldman Sachs; Provide deep level subject matter expertise in one or more areas such as implementation of *cryptography*, authentication, specific development language …
- **Software Security Engineer;** Rockstar New York; Experience implementing core *cryptography* concepts; …
- **HP Security Architect;** CyberSN; Previous experience with *cryptography*; Roles and responsibilities of HP Security Architect; …
- **Information Security Engineer;** Two Sigma Investments, LLC; Demonstrable and detailed understanding of *cryptography*; network security; mobile security; and PKI infrastructure and implementation; …

A search on Payscale reveals that after accumulating five years of work experience, a security architect has an expected compensation (salary plus bonuses, profit sharing, and commission) of $84,015-$161,534 with a median of $114,603.

The need to increase workforce participation of traditionally under-represented groups in high tech Science, Technology, Engineering, and Mathematics (STEM) disciplines has been evident for some time. These careers offer multiple pathways to advancement and higher rates of remuneration that eventually lead to middle class status, often a prized goal of first generation college students. Yet, a recent study by the Organization for Economic Cooperation and Development shows that low income students receive less theoretically-robust mathematics instruction than wealthier students. (http://hechingerreport.org/pure-math-better-applied-math/)

The proposed Mathematics Major is poised to address this inequity. John Jay College is a notable minority serving institution since approximately 60% of its undergraduates identify with historically minority ethnic groups. Furthermore, approximately 40% of the student body is Hispanic. These percentages have been consistent for the past decade which is a reflection of
New York City’s present demographic makeup. If there is any trend in the college’s
demographic composition, it would be to further increase the historically underrepresented
minority population within the student body. Therefore, John Jay is in a commanding position to
increase diversification within the STEM disciplines. Indeed, the college is well known for its
diverse demographic makeup as evidenced by the significant presence of law enforcement
organizations during employer recruiting events where the need to increase the minority presence
in their ranks has become a critical national priority. In fact, the Department of Mathematics &
Computer Science has occasionally fielded inquiries by STEM employers who wanted to know
whether a degree in mathematics was offered. The college’s mission statement says that “… it is
dedicated to educating traditionally underrepresented groups and committed to increasing
diversity in the workforce.” Adding a Mathematics major (with concentrations in Data Science
and Cryptography) to those STEM degree programs that are already in place will provide
additional opportunities for the entire student body to enter a growing field where there are
robust opportunities either for immediate employment after graduation (cf. above) or the pursuit
of graduate study.

No doubt most graduates of the mathematics major will seek employment immediately upon
graduation which is the rule for the majority of John Jay graduates. With many opportunities
available, graduates should find placement within a relatively short time. However, some do
continue on to graduate study. Frequently, our students undertake graduate study with the
support of their employers once they have successfully completed a probationary period at work.
Those individuals that opt for graduate study will find that they are well prepared to enroll in a
wide range of masters programs such as Digital Forensics and Cyber Security (an
interdisciplinary program that is located at John Jay), Financial Mathematics, Machine Learning,
the traditional degree in Mathematics, and Mathematics Education. Indeed, the required
mathematics core (cf. section F below) is similar to the core requirements of other established
CUNY mathematics programs thereby affording graduates the widest possible choice of
subsequent educational opportunities. Through the action of the Program for Research
Initiatives for Science Majors (PRISM), an increasing number of John Jay STEM undergraduates
have gone on to Ph.D. programs. Indeed, a select few of the graduates from the D4CS program
have gone on to earn the Ph.D. degree either at the CUNY Graduate Center (3) or elsewhere
(University of California-Berkeley:1).
E. Student Interest and Enrollment

Given that the proposed curriculum is unique within CUNY and the New York City metropolitan region, there is significant potential to bring new students to John Jay. Furthermore, given CUNY’s significant price advantage over competing private institutions, it is reasonable to expect that the cachet of the proposed program would generate interest beyond the University’s traditional constituency.

Several sources of potential new enrollment already exist or are in development. There is an articulation agreement presently in place with Borough of Manhattan Community College (BMCC) for the well-established Computer Science and Information Security (CSIS) major (implemented in 1988) which would be expanded to embrace the new program. Additional joint degrees will be sought with both Laguardia Community College and Queensboro Community College which have the highest number of associate degree graduates among the CUNY community colleges declaring a major in the mathematical sciences (cf. the table below). Both cohorts would complement several existing pipeline s of well-prepared students. Further strengthening John Jay’s relationship with community colleges is a recent grant from the JPMorgan Chase Foundation, which provides $96,000 annually over the next three years, to aid in the development of an industry-aligned dual admission and joint (undergraduate) degree program in Computer Science and Information Security (CSIS) that involves the five community colleges in the CUNY Justice Academy. The effect will be to expand the CUNY Justice Academy to include the B.S. degree in Computer Science and Information Security. The grant is being supervised by Dean of Graduate Studies Anne Lopes. Not only does the grant formalize new education pathways for well-prepared students but it also anticipates the development of institutional partnerships and virtual internships which will eventually lead to additional employment opportunities in data science and cybersecurity. (The grant also aims to connect the undergraduate Computer Science and Information Security Program (CSIS) with the master’s program in Digital Forensics and Cybersecurity (D4CS) thereby facilitating access to graduate study.) Another source of students is the mayor’s high technology initiative to create pipelines of high school students that already have completed several credit bearing college level courses prior to college admission. Even though there are presently Advanced Placement (AP) tests in Calculus and Computer Science, not enough high school students avail themselves of this opportunity and the mayor’s initiative is just one part of the effort being made to mainstream New York City high school students into well-paying careers that offer upward mobility to the middle class. John Jay College also admitted its first class of Macauley Honors Program students during the fall 2014 semester. These highly motivated students are an additional source of exceptionally well qualified individuals that often seek out challenging and cutting edge contemporary nascent disciplines. All of these different pathways taken together afford a broad enrollment base that will sustain the proposed program.
<table>
<thead>
<tr>
<th>CUNY Community Colleges</th>
<th>Mathematics Majors</th>
<th>Degree</th>
<th>Fall 2015 Total Enrollment</th>
<th>2014-2015 Total Graduates</th>
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</thead>
<tbody>
<tr>
<td>BMCC</td>
<td>Mathematics</td>
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<td>172</td>
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<td>Bronx CC</td>
<td>Mathematics</td>
<td>AS</td>
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<td>Hostos CC</td>
<td>Mathematics</td>
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<td>10</td>
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<td>Kingsborough CC</td>
<td>Mathematics</td>
<td>AS</td>
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<td>12</td>
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<tr>
<td>LaGuardia CC</td>
<td>Liberal Arts: Mathematics and Science</td>
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<tr>
<td>Queensborough CC</td>
<td>Liberal Arts and Sciences – Math and Science</td>
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<th>CUNY Senior Colleges</th>
<th>Mathematics Majors</th>
<th>Degree</th>
<th>Fall 2015 Total Enrollment</th>
<th>2014-2015 Total Graduates</th>
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<td>Baruch</td>
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<td>City College</td>
<td>Math in Scientific and Industrial Applications</td>
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<td>Medgar Evers</td>
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<td><strong>1,281</strong></td>
<td><strong>267</strong></td>
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</table>

Note: Data from Academic Programs Inventory, by College and Academic Program. CUNY Office of Institutional Research and Assessment, 20016-03-10. [http://cuny.edu/about/administration/offices/ira/ir/data-book/current/academic/ACPG_0007_APIReportbyCollegeandAcademicProgramFall2015.pdf](http://cuny.edu/about/administration/offices/ira/ir/data-book/current/academic/ACPG_0007_APIReportbyCollegeandAcademicProgramFall2015.pdf)
There is also a natural synergy between the proposed Mathematics program and the existing degree program in Computer Science and Information Security (CSIS). Both data science and cryptography are computationally intensive disciplines. So it is not surprising that the proposed Mathematics major shares 18 credits worth of courses with the B.S. in CSIS, namely, MAT 241-Calculus I, MAT 204-Discrete Structures, CSCI 271-Introduction to Computing and Programming, CSCI 272-Object Oriented Programming, CSCI 373-Advanced Data Structures, and either CSCI 362-Data Base and Data Mining (Data Science specialization) or CSCI 360-Cryptography and Cryptanalysis (Cryptography specialization). Consequently, the new major already has a strong enrollment base in its foundation courses and it will also enhance the strength of the Computer Science and Information Security (CSIS) program. Additionally, Forensic Science students contribute to the MAT 241-Calculus I enrollments and provide the majority of existing enrollments in MAT 301-Mathematical Probability & Statistics I, the latter being required of all students in the proposed Mathematics major.

Several John Jay students from other majors might decide to switch their major to Mathematics once the program is established. Not more than three per year are included in this category with the assumption that they enter the program between their freshman and sophomore years.

Another source of CUNY based enrollment during the third and fourth years would be from mathematics majors at other CUNY senior colleges who wish to take elective courses in either Data Science or Cryptography. Indeed, since the mathematics core of the proposed major (cf. section F-Curriculum, below) is nearly universal within CUNY and beyond, these students are well qualified to enroll in any course in either the Data Science or Cryptography concentration. Although these would not be transfer students, their presence would provide the college with additional FTE generation and compensate for any freshman and sophomore attrition. The department intends to offer a welcoming environment to this cohort and to open lines of communication with other CUNY mathematics departments to encourage the growth of this option. For the purpose of computing numerical enrollment projections, these students are classified as part time and only two per year are assumed initially.

The proposal to offer a mathematics major at John Jay College was primarily motivated by student interest. Indeed, students who had demonstrated an affinity for mathematics and who were enrolled in advanced mathematics courses have long expressed to the mathematics faculty their regret at the absence of a mathematics major. The department already has a long standing mathematics minor with respectable enrollment which would be another pipeline for enrollment in the proposed mathematics major.

To provide quantified evidence for the student interest in a mathematics degree, we conducted an online survey during the spring 2015 semester. Eighty-nine (89) replies were gathered during a four-week period. Four groups were targeted, namely CSIS majors, mathematics minors, PRISM students, and students registered in advanced mathematics courses such as calculus (or beyond).
The questionnaire was short and contained four questions as well as a section for comments. The first question was whether John Jay should offer a major in applied mathematics. The rationale for this question was twofold: one, we wanted to assess how popular an applied mathematics offering from the department would be and, second, how a mathematics major would fit with the mandate and mission of John Jay College as perceived by those student groups. An overwhelming 85% of the respondents recognized the necessity of John Jay College offering an applied mathematics major.

**Question 1**

Should John Jay offer a major in Applied Math with concentrations in Cryptography and Data Analysis?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>76</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
</tr>
</tbody>
</table>

An impressively high 75% of respondents would have considered following mathematics major. Furthermore, more than 60% of respondents would have considered specializing in either Cryptography or Data Science.
Question 2

If there had been a Math major at John Jay, what concentration would you have chosen from the list below?

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics in Education</td>
<td>10</td>
<td>11.2%</td>
</tr>
<tr>
<td>Cryptography</td>
<td>30</td>
<td>33.7%</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>26</td>
<td>29.2%</td>
</tr>
<tr>
<td>I would not have considered a math major</td>
<td>23</td>
<td>25.8%</td>
</tr>
</tbody>
</table>

The third question asked whether students would choose mathematics major should they transfer out of their present major. This question probes deeper into the desire to pursue mathematics major when students have already invested a large part of their credits in a different subject. Again, the responses confirmed our impressions. 30% of the respondents would consider transferring to a mathematics major – more than all other majors mentioned.

Question 3

If you transferred out of your current major, which of the following would best apply to you?

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I might transfer to a Computer Science and Information Security major</td>
<td>15</td>
<td>15.8%</td>
</tr>
<tr>
<td>I might transfer to a Forensic Science or Biology major</td>
<td>9</td>
<td>10.1%</td>
</tr>
<tr>
<td>I might transfer to an Applied Math major, if there was an Applied Math major</td>
<td>27</td>
<td>30.3%</td>
</tr>
<tr>
<td>I will switch to another major because I decided that a program in the sciences (Math, Computer, Forensic, Biology) is not for me.</td>
<td>7</td>
<td>7.3%</td>
</tr>
<tr>
<td>None of these apply to me.</td>
<td>31</td>
<td>34.8%</td>
</tr>
</tbody>
</table>

Finally, we include some of the free response comments that were received from respondents:
1. I am actually transferring out of John Jay College because there is no math major. I'm going to Stony Brook University to study applied math and statistics. If there was a math major, maybe I would consider staying.

2. I have been a math lover and having a math major would be very beneficial to the school. I wanted to major in math in John Jay but since it was not an option I was forced to minor. This will not affect me since I am graduating, however I would have majored in math if it was an option.

3. A major in math would be great for an economics major. I'm an economics major, mathematics and economics go to hand to hand.

4. I graduated past dec and math minor. This is sad that data analyst major is coming up after I graduated.....

5. I think having a Math Major would be a great idea. That would only mean more math classes to be offered.

6. I am interested in math and with a math major available, I would have reconsidered my options.

7. I would definitely transfer to cryptography.

8. I am an economics major so data analysis would've been most helpful to me.

9. As of now, I'm currently enrolled in the forensic science major but it's becoming more and more difficult to find jobs here in New York. Therefore, if I were to change majors, I think a major in cryptography would be ideal since a degree in that discipline can be applied to both private and government security. The internet and its capabilities can only grow from here and with it will arise a great need for both security and privacy. I'm interested to see what math courses will be required to earn a degree like this.

10. I came in as a forensic science major, but realized it was not for me and decided to take a mathematics route. Unfortunately because math was not a major here at John Jay, I have been taking the appropriate steps needed in order to transfer schools. This is troubling because I love John Jay College and I really dislike the fact that I have to transfer because the major I am now interested in is not offered. I am very excited to hear that John Jay is considering a math major and I hope all the details are worked out in time for me to make a final decision on my transfer.

11. I think there should be more math majors, for students who actually enjoy math and can look forward to enhancing their skills in the subject.

12. A Math major would be greatly beneficial for society. Some people do not understand the impact mathematics can have in their lives. Although I am in a field that I generally prefer (forensic science), the aspects of mathematics still fascinates me, and may have been a close second option for a major for me. I have thought of taking up Math as a minor, but it would be amazing to see a Math major offered to other students.

13. In this age of technological advances we are to understand data and analyze it to have a step up from the competition.

14. I would like to see more computer courses offered at John Jay. If a cryptography major or minor were offered I would consider taking it.

15. I would have taken a double major in mathematics and computer science if it was available.

16. As a CSCI major I would definitely major in Cryptography.

17. I have a computer science major now, if there is an applied math major, I would like to have double majors.
18. Would be beneficial to have the ability to double major in CIS and Applied Math with Cryptography.
19. Currently a Computer Science/Information Security major but had there been a Data Analysis type of major, I may have considered that as well.
20. If the Data Analysis major does come to John Jay I would definitely do a double major.
21. If there was a major specialized on cryptography I would be very interested in switching my current major to that one.
22. I think The Mathematics and Computer Science Department should be considering the development of a new major that will specialize in CRYPTOGRAPHY and DATA ANALYSIS. It is a great idea. Good luck!
23. I am a Forensic Psychology student. While I am not interested in math, I am sure there might be students who are interested in Cryptography.

The survey results indicate unequivocally that there is a desire for a mathematics major at John Jay College and the mathematics major we propose would go a long way toward fulfilling this need.

The survey was only administered to students who had already been exposed to a great deal of mathematics and had demonstrated prior interest in mathematics. We believe that a mathematics major would also appeal to students with a strong interest in science and the humanities. Science students are naturally attracted to subjects that are quantitatively based, while humanities students are drawn to the abstract, almost philosophical nature, of mathematics. It is not unusual to find that the top performing students in a mathematics class are majoring in Psychology or Forensic Science. Many comments also reveal a strong interest in having the opportunity for a double major in CSIS and mathematics or economics and mathematics. Nevertheless, our intention is not to attract just John Jay students. Our principal concern will be to recruit and enroll new students that are attracted to John Jay by the singular concentrations of the mathematics major, namely, Cryptography and Data Science, which are truly unique offerings in the greater New York City metropolitan region, and, possibly the United States. Indeed, these two fields have cachet and are attracting well prepared high school graduates looking for careers in emerging employment sectors.

A projection of student enrollment in the major is presented in tabular form. An entering freshman cohort of 20 students is estimated. The enrollment projections also assume that the average college wide first year retention rate is at least 75% which is a conservative estimate since recent data suggest slightly better performance. Due to an intensive advisement and intervention strategy (cf. section F-Curriculum below), the retention rates for the second, third, and fourth years are taken to be at least 90%, 95%, and 95% respectively. It is expected that half of the seniors graduate at the end of their fourth year whereas the remaining half graduate at the end of their fifth year.
Projected enrollment, Mathematics B.S., years 1-5

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>Cont</td>
<td>New</td>
<td>Cont</td>
<td>New</td>
<td>Cont</td>
</tr>
<tr>
<td>FT</td>
<td>13</td>
<td>5</td>
<td>18</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>PT</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Sub-</td>
<td>15</td>
<td>5</td>
<td>20</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>Totals</td>
<td>20</td>
<td>36</td>
<td>53</td>
<td>68</td>
<td>83</td>
</tr>
</tbody>
</table>

*Please note: These projections consider John Jay’s 77.6% one-year retention rate (based on most recent data available from the fall 2014 entering class). Additionally, in the first three years of the major, additional existing students are expected to transfer from an existing major into the new Mathematics major. In the fifth year, graduates from the program are considered in the projections at a 20.8% rate, which is our average graduation rate over the five most recent years (fall 2010 cohort).
F. Curriculum

A thorough curricular review of the CUNY senior colleges’ mathematical sciences programs was undertaken prior to developing the curriculum of the proposed mathematics major. It reflects current thinking regarding the necessary foundations required to pursue a career in mathematics while at the same time preparing students for two contemporary concentrations that are in great demand. The proposed program is the first of its kind to solely emphasize Data Science and Cryptography. Indeed, contact with other senior colleges regarding their mathematics majors’ career paths revealed many different possibilities but none included these concentrations (cf. table below.). The proposed curricular requirements are also comparable with other mathematics programs outside of CUNY.

<table>
<thead>
<tr>
<th>College</th>
<th>Career Paths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baruch</td>
<td>Actuarial sciences.</td>
</tr>
<tr>
<td>City</td>
<td>Actuarial sciences, business, finance, government (e.g. U.S. Patent Office), high-tech (e.g., Google), scientific and industrial applications, teaching.</td>
</tr>
<tr>
<td>Hunter</td>
<td>Actuarial sciences, banking, construction management, finance, high-tech, medical research, pharmaceuticals, teaching.</td>
</tr>
<tr>
<td>Lehman</td>
<td>Actuarial sciences, business, engineering, transportation.</td>
</tr>
<tr>
<td>New York City Tech</td>
<td>Finance, government, teaching, transportation.</td>
</tr>
<tr>
<td>Queens</td>
<td>Actuarial sciences, banking, finance, social science research, teaching.</td>
</tr>
<tr>
<td>Staten Island</td>
<td>Engineering, finance, teaching.</td>
</tr>
</tbody>
</table>

Two concentrations are proposed for the major each contributing uniquely to the college’s mission. The first concentration is Data Science. In this concentration, students will learn the principles of data representation, big data management, and statistical modeling. They will also be able to use computers to reveal hidden causal and temporal relationships in large data sets. Companies are now seeking employees with the skills to build and query large data sets and to understand how to ask the right questions in order to extract critical, usable knowledge.
Expertise in data analytics will be in demand in nearly all areas of human enterprise. Any major industry—banking, education, defense, insurance, healthcare, law enforcement, petroleum logistics—is grappling with data analytics issues. The issues of “big data” engender partnerships with diverse public sector and commercial enterprises. The capstone course (MAT 4xx–Data Analysis) will prepare students for experiential learning opportunities through partnerships with the public and private sectors that furnish real time situations for analysis.

The second concentration is Cryptography. In this concentration, students will learn to secure information which is achieved by assuring privacy as well as other properties of a communication channel, such as data integrity, authenticity, and non-repudability, depending upon the application. They will devise systems for companies to resist the unwarranted intrusions of hackers, to protect internal company and consumer data, and to act as consultants to research staff concerning the implementation of cryptographic and mathematical methods. Cryptologists find employment in banks and trust companies, financial institutions, insurance companies, scientific institutions, and research agencies. They may also work for telecommunications companies, computer design firms, consulting firms, science and engineering firms, and all levels of government, including defense and intelligence agencies.

As previously detailed (cf. section E above), the Mathematics major and the existing major in Computer Science and Information Security (CSIS) share 18 credits worth of courses thereby providing for a natural synergy between them. Such a commonality of core courses also furnishes an opportunity for ambitious students to undertake a dual major in Mathematics, and Computer Science and Information Security (CSIS). Graduates having a dual major in these sought after disciplines will be in a strong position to compete for the choicest employment opportunities or to pursue graduate study.

1. General Learning Objectives

The mathematics major is designed to enable all students to be able to:

- Apply the principles of mathematical proof and deductive logic to prove level appropriate mathematical statements or create counterexamples within the context of the real number axioms and the axioms defining various algebraic structures;
- Apply the mathematical modeling process to modern problems in data science and cryptography for the purpose of analyzing large data sets and encrypting plaintext or decrypting cipher text; and
- Function effectively in an interdisciplinary team environment and express quantitative information effectively to others;
- Identify and adhere to the ethical constraints of respecting personal data privacy and evaluate and assess ethical standards for the application of cryptographic algorithms in contemporary contexts.
2. Description of the Prescribed Coursework

The curriculum was designed to facilitate student progress towards graduation. It consists of four segments consisting of foundation courses (15 credits), mathematics core courses (18 credits), a concentration (12 credits), and electives (6 credits). Consequently, to fulfill the requirements of the major, a student must complete 51 credits which aligns with the other robust majors of the college. Once a student has completed the introductory calculus sequence, nearly all of the core courses and the elective offerings may be taken in parallel. The notable exceptions are the one or two courses at the end of the concentrations which demand a synthesis of all of the mathematical knowledge acquired throughout the program. Customarily, the basic calculus sequence is reckoned as part of the mathematics major at senior CUNY colleges.

(a) Foundation Courses (15 credits)

The foundation courses consist of the universally accepted pathway to the mathematical sciences, the first year calculus sequence (MAT 241-MAT 242) as well as a computer programming course, Objected- Oriented Programming (CSCI 272), and Discrete Structures (MAT 204). The calculus courses introduce the mathematical principles used to analyze (single variable) continuous processes and the mathematical modeling process. The inclusion of a programming course in mathematics majors has gained considerable acceptance during the past two decades given the computationally intensive nature of the modern numerical algorithms used to approximate continuous processes. Furthermore, both concentrations (i.e. data science and cryptography) are intrinsically computational which provides a strong rational for including the programming course. Discrete Structures develops the foundational concepts (e.g. mathematical induction, recursion, trees, and graphs,) that serve as a basis for subsequent courses in information science. Since both tracks of the proposed mathematics major are respectively concerned with different aspects of information processing, Discrete Structures helps students transition to the required concentration courses.

(b) Mathematics Core (18 credits)

The mathematics core of the major consists of six courses (MAT 243-Calculus III, MAT 244-Calculus IV, MAT 301-Mathematical Probability & Statistics I, MAT 310-Linear Algebra, MAT 351-Ordinary Differential Equations, and CSCI 373-Advanced Data Structures). Four of them (MAT 243, MAT 244, MAT 310, and MAT 351) develop the basic mathematical sophistication necessary for undertaking advanced mathematical studies whereas the other two (MAT 301-Mathematical Probability & Statistics I and CSCI 373-Advanced Data Structures) specifically convey skills necessary for the two concentrations. Probability and Mathematical Statistics I
(MAT 301) advances mathematical intellectual growth whereas Advanced Data Structures (CSCI 373) provides essential data structure techniques that support the computationally curriculum.

The first four courses, that is, Calculus III (MAT 243), Calculus IV (MAT 244), Linear Algebra (MAT 310), and Ordinary Differential Equations (MAT 351) develop the mathematical understanding that is required for learning advanced mathematics. Calculus III-Calculus IV is a one year sequence that generalizes the concepts of single variable calculus to higher dimensional settings such as the three dimensional space in which we exist. Consequently, all of the problems encountered involve either two or more independent variables. Linear Algebra is an indispensable tool for understanding many nonlinear phenomena. Often, the first step in analyzing a nonlinear model is to replace it with a suitable linear approximation and linear algebra plays a significant role in developing the linear approximation. Data are frequently represented by points in higher dimensional space (by means of coordinates) and it is common practice to partition it into classes by means of linear functions called hyperplanes. Simple linear regression is an example of an approach whereby a reliable prediction is extrapolated from a data set. Sophisticated cryptanalytic methods employ a linear analysis of differences (often applied when inferring key and plaintext from ciphertext based on partial knowledge of the plaintext, commonly known as cribbing) which is similar to those used to approximate solutions of differential equations. Furthermore, linear algebra also has a substantial presence in the theory of machine learning. Lastly, Ordinary Differential Equations enables mathematicians and scientists to find solutions to models of continuous phenomena especially those arising from the laws of classical physics (i.e. Newton’s Laws and Maxwell’s Equations of Electromagnetism).

The two remaining courses, Mathematical Probability and Statistics I (MAT 301) and Advanced Data Structures (CSCI 373) play important supporting roles in both of the proposed concentrations. For example, the former supports the prediction of probability distributions in data science and the use of Markovian methods to decrypt ciphertext whereas the latter is a sine qua non for the computationally intensive algorithms of both data science and cryptography.

(c) Concentrations (12 credits)

(i) Data Science

The Data Science concentration strives to build the following proficiencies:

- Use mathematical methods to analyze and recognize the properties of large data sets as well as any anomalies;
- Use suitable models e.g. linear regression, logistic regression, etc. to analyze data and predict probability distributions; and
- Recognize clustering in large data sets and explain its significance.

The data science track consists of four courses (MAT 302, MAT 3xx, CSCI 362 and MAT 4xx). Mathematical Probability & Statistics II (MAT 302) provides the background needed to contend with uncertain or random data as well as analyze and draw inferences from “big data.” In contrast to classical mathematics, it is not possible to deduce consequences directly from the information at hand; the best that can be achieved is to predict the most likely (or probable) outcomes. The mathematical tools that study multiple (or several) variables and their interrelationships is the object of Multivariate Analysis (MAT 3xx). Multivariate Analysis (MAT 3xx) enables the researcher to make sensible assumptions about the way in which data is structured and which variables are relevant for the purpose of obtaining reasonable implications about the data’s importance.

Today’s data is stored in computers in the form of large databases. Knowing how such databases are structured and how they can be queried is the objective of Data Base and Data Mining (CSCI 362). It also provides an important computer science component that data analysts need while simultaneously refining the programming skills that students have developed in previous computer science courses. The course is already a requirement for the Computer Science and Information Security major. Consequently, its presence as requirement in the mathematics major will provide additional enrollment without any cost. Mathematical and computer science skills converge and synthesize in the state-of-the-art Data Analysis (MAT 4xx) capstone course. Students will be presented with the opportunity to further refine their knowledge and apply it directly to multifaceted practical problems that arise from large data sets.

The Data Analysis (MAT 4xx) capstone course will employ all of the previously acquired mathematical and computer science skills to understand and develop algorithms for data science. Students will also refine the art of making optimal decisions based on the information at hand. Equal time will be assigned to lectures and laboratory work. Lectures will be devoted to the problem solving process, that is, problem statements followed by an explanation of the pertinent algorithms as well as the current software packages available for their implementation. Laboratory work will be centered upon the analysis of various real time data sets of increasing degrees of complexity in the form of assigned projects. The final project will be indicative of the challenges a data analyst will face when employed. It must be emphasized that the laboratory component is an integral component of the course. Contemporary problems and algorithms because of their complexity will, of necessity, require that students compose their own computer code for the algorithms’ implementation thereby reinforcing the students’ computer science skills. The course also has a critical writing component. Data analysts need to express precisely their objectives vis a vis the data and once a study is completed, they need to communicate their
findings. Furthermore, data analysts are also required to turn their findings into plausible justifications to support any subsequent decisions based on the original data. The course’s comprehensive problem solving process will give students a realistic experience of a data analyst’s work which is the primary purpose of a capstone course.

**(ii) Cryptography**

The cryptography specialization strives to build the following proficiencies:

- Use the mathematics upon which specific cryptographic algorithms are based to analyze the strengths and weaknesses of cryptographic schemes;
- Guarantee authenticity and integrity of data and ensure that transactions are non-repudiable, when appropriate; and
- Develop cryptographic algorithms.

The cryptography track consists of four courses (MAT 341, MAT 410, CSCI 360, and MAT 4xx) two of which, Advanced Calculus I (MAT 341) and Abstract Algebra (MAT 410), furnish vital mathematical content necessary for engaging in the art of cryptography. Cryptography and Cryptanalysis (CSCI 360) and Mathematical Cryptography (MAT 4xx) comprise a year-long intensive introduction to the subject. Mathematical Analysis I (MAT 341) introduces the technique of formal proof as well as the requisite analytical tools to understand the nuances of those cryptographic algorithms that have their roots in continuous phenomena. Abstract Algebra (MAT 410) develops the concepts needed to analyze cryptographic schema based upon discrete systems and/or elementary number theory.

The essence of the cryptographic track lies in the two cryptography courses. The first one, Cryptography and Cryptanalysis (CSCI 360), presents many of the cryptographic algorithms commonly employed today from a user’s perspective. It is essentially a practicum that demonstrates the contexts within which the various algorithms are appropriate and discusses their respective strengths and weaknesses. The course is already a requirement for the (undergraduate) Computer Science and Information Security major and is a solid practicum for those students too. The Mathematical Cryptography (MAT 4xx) course is the heart of the cryptography track and is the capstone course for students pursuing the cryptography specialization. It delves deeply into the theory behind many of the contemporary cryptographic algorithms and requires a synthesis of all of the mathematical skills acquired in previous courses. Seven projects of varying levels of difficulty are assigned throughout the semester and are the basis for assessment. The paramount goal of the course is to enable students to gain some facility with composing cryptographic algorithms.

The final required course in the cryptography track, Mathematical Cryptography (MAT 4xx), is
a *bona fide* capstone course in every respect. The entire mathematical skill set that has been acquired in the program must be brought to bear on the analyses of the cryptographic algorithms studied in order to understand why they are effective and what may make them vulnerable. Seven projects of increasing difficulty are assigned throughout the semester and the students’ course grades are entirely determined by their performance on these projects. Indeed, as the semester progresses, the projects begin to look more like the challenging problems that will be encountered when working in the field. Not only is the course computationally intensive which precludes traditional assessment by means of in-class quizzes, there is also a significant writing component. It does not suffice to have resolved a problem if you cannot convey your results to others that may be part of your team. Teamwork is essential in today’s business model and more often than not a mathematician is part of a team composed of individuals with very diverse skill sets. Consequently, effective communication capabilities are sought out by employers. The course provides an experience that simulates what cryptographers actually do which is the primary purpose of the capstone experience.

**(d) Admission Standards**

The college uses the CUNY criteria for skill certification which includes SAT scores, New York State Regents’ Examination performance, and the CUNY mathematics placement examination. Students that have completed three years of high school mathematics which includes intermediate algebra and trigonometry would be adequately prepared for admission to the major. Course grades would serve as a secondary certification of skill acquisition.

Ideally, students would begin the major in MAT 141 (Pre-calculus) during their first semester whereas those that have already completed a pre-calculus course in high school would be placed in MAT 241 (Calculus I). The majority of entering freshman are expected to fall into one of these two cohorts. Those students who have passed either the Advanced Placement Calculus-AB or Calculus-BC examinations with a grade of 4 (out of 5) or better would be placed in either MAT 242 (Calculus II), MAT 243 (Calculus III), or MAT 244 (Calculus IV), upon the recommendation of a Mathematics & Computer Science Department advisor.

***(e) Interventions for Increased Retention***

Retention is a challenge for all STEM programs not only in CUNY but for all institutions of higher education in general. Considering that many of the students in John Jay’s traditional constituency graduate from high schools that are woefully lacking in basic resources, both in personnel and technology, their preparation for college level work varies considerably. Consequently, in order for our students to succeed and flourish, additional support mechanisms for retention need to be in place from the first day they set foot on campus. Several interventions are described that have been proven to be effective and are of minimal cost. All are expected to
be implemented once the major is approved.

**Advising** is the principal component of any successfully retention strategy. All declared Mathematics majors will be assigned a faculty advisor from the Mathematics & Computer Science Department once they arrive and be required to meet with their advisor at least once each semester to review course selections for subsequent semester(s). However, advising is an on-going function that is not limited to a one day encounter with a department faculty member. On the first day of each semester, the department expects to host a reception for all of its mathematics majors to review and explain the major requirements and to answer student questions about the program. Course placement issues would also be resolved at that time with special attention given to entering freshman. It is critical that students have a positive start each semester.

It is well known that knowledge retention and proficiency diminishes when there is a hiatus of use. Since the Mathematics major’s two tracks, Data Science and Cryptography, are both computationally intensive, there is a need to simultaneously reinforce mathematical skills and concepts that have already been acquired as well as digital computational dexterity. To address both issues, the Mathematics & Computer Science Department proposes to run a voluntary one day camp/seminar during the winter and summer recesses that is devoted to problem solving, discussions of current research, and topics of student interest. The problem solving component would use the resources of the Euler Project (cf. [www.projecteuler.net](http://www.projecteuler.net)) which was purposely designed to integrate mathematics and computational science.

Taken together, these interventions will provide a much needed support network for our students. It will also help foster a **sense of community** and the formation of **learning communities** both of which are known to improve course outcome and program retention.

(f) **Writing, Oral Presentations, and Ethics Across the Curriculum**

Writing plays a significant role in both the data science and cryptography concentration capstone courses, Data Analysis (MAT 4xx) and Mathematical Cryptography (MAT 4xx) cf. supra B.5. As mentioned earlier, these courses have a significant writing component. Indeed, both are project based and for each project, students will be required to describe their analyses and results in the form of a report. As the projects increase in difficulty and complexity, the need to consult relevant literature will likewise increase. Nowadays, traditional hard copy sources such as texts and journal articles are most often found in electronic form and there are the additional cloud based resources such as Wikipedia. Consequently, students will have a contextual opportunity to improve their information literacy skills.

The capstone courses also provide opportunities for students to formally present and discuss their
work with peers. Some of the work may be of the caliber that is required for a John Jay Research Week submission, thereby offering an additional opportunity for oral presentation.

Ethical concerns arising in the Data Science specialization are discussed in the Data Analysis (MAT 4xx) course whereas the ethics component of the Cryptography specialization is included in Cryptography and Cryptanalysis (CSCI 360). Each of these courses has three lectures dedicated solely to ethical considerations.

(g) Internships and Experiential Learning Opportunities

The college’s three year grant from the JPMorgan Foundation (cf. Section E above) provides funding for the development of a student-to-industry pipeline. Part of the effort is for the establishment of virtual internships as well as the institutionalization of the college’s partnerships with industry. It is expected that the industrial partnerships will offer opportunities for on-site internships which often have the potential to lead to offers for full time employment upon graduation. Private sector internship availability, especially in finance and high tech, is often dependent upon the performance of the economy, but it is still anticipated that a minimum number of internships will be available from year to year due to the considerable unfulfilled demand for highly trained personnel in these sectors.

Students will also be encouraged to apply for undergraduate internships that several federal agencies offer annually on a competitive basis. All provide stipends for sustenance and living expenses since they are sited at locations outside of the New York City metropolitan region. In particular, some of the agencies that support such programs are the National Science Foundation (NSF), National Security Agency (NSA), Oak Ridge National Laboratory (ORNL), and the Department of Homeland Security (DHS). Students that earn positions in these programs are in an excellent position to gain considerable experience applying the classroom knowledge they have acquired in a milieu that is representative of many potential employment venues. Furthermore, because of their competitive nature, selection to participate in one of these internships is considered an achievement by itself and a distinguishing entry on a resume.

(h) External Support

The department expects to pursue funding to support activities that encourage traditionally underrepresented groups to participate in the major. Furthermore, funding will also be sought to underwrite undergraduate student research experiences in the major’s capstone courses. Both the public and private sectors provide programs that support such initiatives including the National Science Foundation (NSF), the National Security Agency (NSA), the Department of Defense (DOD), and the Sloan Foundation. The programs sponsored by the federal agencies are competitive and funded on an annual basis.
3. Curriculum Planning

(a) Required Coursework

<table>
<thead>
<tr>
<th>Foundation (15 Credits)</th>
<th>Mathematics Core (18 Credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Required:</em></td>
<td><em>Required:</em></td>
</tr>
<tr>
<td>MAT 204-Discrete Structures</td>
<td>MAT 243-Calculus III</td>
</tr>
<tr>
<td>MAT 241-Calculus I</td>
<td>MAT 244-Calculus IV</td>
</tr>
<tr>
<td>MAT 242-Calculus II</td>
<td>MAT 301-Mathematical Probability &amp; Statistics I</td>
</tr>
<tr>
<td>CSCI 271-Introduction to Computing and Programming</td>
<td>MAT 310-Linear Algebra</td>
</tr>
<tr>
<td>CSCI 272-Object Oriented Programming</td>
<td>MAT 351-Ordinary Differential Equations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cryptanalysis Core (12 Credits)</th>
<th>Data Science Core (12 Credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Required:</em></td>
<td><em>Required:</em></td>
</tr>
<tr>
<td>MAT 341-Advanced Calculus I</td>
<td>MAT 302-Mathematical Probability &amp; Statistics II</td>
</tr>
<tr>
<td>MAT 410-Abstract Algebra</td>
<td>MAT 3xx-Multivariate Analysis</td>
</tr>
<tr>
<td>CSCI 360-Cryptography and Cryptanalysis</td>
<td>CSCI 362-Data Base and Data Mining</td>
</tr>
<tr>
<td>MAT 4xx-Mathematical Cryptography*</td>
<td>MAT 4xx-Data Analysis*</td>
</tr>
<tr>
<td>*Capstone Course</td>
<td>*Capstone Course</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Common Electives (6 Credits)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Choose two courses. Six credits of electives are required.</em></td>
<td></td>
</tr>
<tr>
<td>MAT 323-Operations Research I</td>
<td></td>
</tr>
<tr>
<td>MAT 324-Operations Research II</td>
<td></td>
</tr>
<tr>
<td>MAT 352-Partial Differential Equations</td>
<td></td>
</tr>
<tr>
<td>MAT 371-Numerical Analysis</td>
<td></td>
</tr>
<tr>
<td>MAT 4xx-Game Theory</td>
<td></td>
</tr>
<tr>
<td>MAT 3xx-Stochastic Processes</td>
<td></td>
</tr>
<tr>
<td>MAT 3xx-Image Processing</td>
<td></td>
</tr>
<tr>
<td>MAT 3xx-Internship</td>
<td></td>
</tr>
<tr>
<td>MAT 380-Special Topics</td>
<td></td>
</tr>
<tr>
<td>MAT 442-Advanced Calculus II</td>
<td></td>
</tr>
</tbody>
</table>

Total required credits: 51 credits
(b) Sample Student Degree Plans

(i) Data Science Concentration

(1) Sample Degree Plan for Students needing Pre-calculus (MAT 141)

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>MAT 141-Precalculus*</td>
<td>MAT 241-Calculus I</td>
</tr>
<tr>
<td></td>
<td>*Not part of the major</td>
<td>MAT 204-Discrete Structures</td>
</tr>
<tr>
<td>Sophomore</td>
<td>MAT 242-Calculus II</td>
<td>MAT 243-Calculus III</td>
</tr>
<tr>
<td></td>
<td>MAT 310-Linear Algebra</td>
<td>MAT 351-Ordinary Differential</td>
</tr>
<tr>
<td></td>
<td>CSCI 271-Introduction of Computing and Programming</td>
<td>Equations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSCI 272-Object Oriented Programming</td>
</tr>
<tr>
<td>Junior</td>
<td>MAT 244-Calculus IV</td>
<td>MAT 302-Mathematical Probability and Statistics II</td>
</tr>
<tr>
<td></td>
<td>MAT 301-Mathematical Probability and Statistics I</td>
<td>CSCI 373-Advanced Data Structures</td>
</tr>
<tr>
<td>Senior</td>
<td>MAT 3xx-Multivariate Analysis</td>
<td>MAT 4xx-Data Analysis*</td>
</tr>
<tr>
<td></td>
<td>CSCI 362-Data Base and Data Mining</td>
<td>Elective 2</td>
</tr>
<tr>
<td></td>
<td>Elective 1</td>
<td>*Capstone Course</td>
</tr>
</tbody>
</table>

(2) Sample Degree Plan for Students taking Calculus I (MAT 241) in their first semester

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>MAT 241-Calculus I</td>
<td>MAT 242-Calculus II</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAT 204-Discrete Structures</td>
</tr>
<tr>
<td>Sophomore</td>
<td>MAT 243-Calculus III</td>
<td>MAT 244-Calculus IV</td>
</tr>
<tr>
<td></td>
<td>MAT 310-Linear Algebra</td>
<td>MAT 351-Ordinary Differential</td>
</tr>
<tr>
<td></td>
<td>CSCI 271-Introduction to Computing and Programming</td>
<td>Equations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSCI 272-Object-Oriented Programming</td>
</tr>
<tr>
<td>Junior</td>
<td>MAT 301-Mathematical Probability and Statistics I</td>
<td>MAT 302-Mathematical Probability and Statistics II</td>
</tr>
<tr>
<td></td>
<td>MAT 3xx-Multivariate Analysis</td>
<td>CSCI 373-Advanced Data Structures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>CSCI 362-Data Base and Data Mining</td>
<td>MAT 4xx-Data Analysis*</td>
</tr>
<tr>
<td></td>
<td>Elective 1</td>
<td>Elective 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Capstone Course</td>
</tr>
</tbody>
</table>
(ii) Cryptography Concentration

(1) Sample Degree Plan for Students needing Pre-calculus (MAT 141)

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>MAT 141-Precalculus*&lt;br&gt;*Not part of the major</td>
<td>MAT 241-Calculus I&lt;br&gt;MAT 204-Discrete Structures</td>
</tr>
<tr>
<td>Sophomore</td>
<td>MAT 242-Calculus II&lt;br&gt;MAT 310-Linear Algebra&lt;br&gt;CSCI 271-Introduction to Computing and Programming</td>
<td>MAT 243-Calculus III&lt;br&gt;MAT 351-Ordinary Differential Equations&lt;br&gt;CSCI 272-Object-Oriented Programming</td>
</tr>
<tr>
<td>Junior</td>
<td>MAT 244-Calculus IV&lt;br&gt;MAT 301-Mathematical Probability and Statistics</td>
<td>MAT 410-Abstract Algebra&lt;br&gt;CSCI 373-Advanced Data Structures</td>
</tr>
<tr>
<td>Senior</td>
<td>MAT 341-Advanced Calculus I&lt;br&gt;CSCI 360-Cryptography and Cryptanalysis&lt;br&gt;Elective 1</td>
<td>MAT 4xx-Mathematical Cryptography*&lt;br&gt;Elective 2&lt;br&gt;*Capstone Course</td>
</tr>
</tbody>
</table>

(2) Sample Degree Plan for Students taking Calculus I (MAT 241) in their first semester

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>MAT 241-Calculus I</td>
<td>MAT 242-Calculus II&lt;br&gt;MAT 204-Discrete Structures</td>
</tr>
<tr>
<td>Sophomore</td>
<td>MAT 243-Calculus III&lt;br&gt;MAT 310-Linear Algebra&lt;br&gt;CSCI 271-Introduction to Computing and Programming</td>
<td>MAT 244-Calculus IV&lt;br&gt;MAT 351-Ordinary Differential Equations&lt;br&gt;CSCI 272-Object-Oriented Programming</td>
</tr>
<tr>
<td>Junior</td>
<td>MAT 301-Mathematical Probability and Statistics I&lt;br&gt;MAT 341-Advanced Calculus I</td>
<td>MAT 410-Abstract Algebra&lt;br&gt;CSCI 373-Advanced Data Structures</td>
</tr>
<tr>
<td>Senior</td>
<td>CSCI 360-Cryptography and Cryptanalysis&lt;br&gt;Elective 1</td>
<td>MAT 4xx-Mathematical Cryptography*&lt;br&gt;Elective 2&lt;br&gt;*Capstone Course</td>
</tr>
</tbody>
</table>
The Mathematics and Computer Science Department has a relatively young faculty, more than half of which was hired within the last ten years, that is eager to write the next chapters in Data Science and Cryptography education and research. Indeed, the department faculty’s talents are a good fit for the program. Furthermore, one of the hallmarks of the John Jay College curriculum is its interdisciplinary nature. While collaboration with other departments has always been an important part of research at John Jay, the nature of the proposed major will create additional interdisciplinary educational and research opportunities. In particular, data analysis methods are used in economics, forensic science, and fraud examination, whereas cryptanalysis has a prominent role in forensic computing, criminology, and police science. For all of these reasons, we believe that now is the opportune time to launch Mathematics major with concentrations in Data Science and Cryptography.

The faculty in the Department of Mathematics and Computer Science that will staff the proposed major are listed below along with their highest academic degree. Of those listed, 89% hold a Ph.D. degree in either mathematics or computer science. Because the major builds on existing strengths within the department, only a minor modification in teaching responsibilities will be needed in order to maintain a sequencing of both required and elective courses which is important if students are to have a reasonable expectation of graduating in four years.

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Academic Degree</th>
<th>Faculty Expertise: Program Courses to be Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aftab Ahmed</td>
<td>Doctor of Science, Computer Science, George Washington University</td>
<td>Computer Science: Data Bases and Data Mining (362); Object Oriented Programming (272); Cryptography and Cryptanalysis (360). Expertise - Assessment of security, privacy, integrity and non-repudiation</td>
</tr>
<tr>
<td>Leslie Chandrakantha</td>
<td>Ph.D., Mathematics, Temple University</td>
<td>Probability, Statistics, and Data Science: Mathematical Probability Statistics I&amp;II (301-302; Multivariate Analysis (3xx); Data Analysis (4xx). Expertise - use of simulation to teach statistical concepts</td>
</tr>
<tr>
<td>Sven Dietrich</td>
<td>Doctor of Arts, Mathematics, Adelphi University</td>
<td>Computer Science: Cryptography and Cryptanalysis (360); Mathematical Cryptography (4xx). Expertise - applied cryptography and computer/ network security, analysis of malware, botnets and distributed denial of service attacks</td>
</tr>
<tr>
<td>Alvin Estrada</td>
<td>M.A., Mathematics Education, Adelphi University</td>
<td>Mathematics Education: Calculus I and Calculus II (241-242); Discrete Mathematics (204).</td>
</tr>
<tr>
<td>Name</td>
<td>Institution</td>
<td>Expertise</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Konstantinos Georgatos</td>
<td>M. Phil, Ph.D., Mathematics, The City University of New York</td>
<td>Data Science: Multivariate Analysis (3xx); Data Analysis (4xx); Game Theory (4xx). Expertise – logic and artificial intelligence, belief and information merging</td>
</tr>
<tr>
<td>Samuel Graff</td>
<td>Ph.D., Mathematics, New York University</td>
<td>Differential Equations, Cryptography, and Quantum Computing: Ordinary Differential Equations (351); Partial Differential Equations (352); Advanced Calculus I&amp;II (341-442); Mathematical Cryptography (4xx). Expertise – analysis</td>
</tr>
<tr>
<td>Hunter Johnson</td>
<td>Ph.D., Mathematics, University of Maryland</td>
<td>Logic, Algebra, and Cryptography: Cryptography and Cryptanalysis (360); Mathematical Cryptography (4xx); Abstract Algebra (410). Expertise - theoretical machine learning, analysis of statistical classification algorithms, cryptography</td>
</tr>
<tr>
<td>Shaobai Kan</td>
<td>Ph.D., Mathematics, Wayne State University</td>
<td>Probability, Statistics, Stochastic Processes, and Data Analysis: Object Oriented Programming (272); Stochastic Processes (3xx); Multivariate Analysis (3xx). Expertise - system identification, mathematical statistics, stochastic control, applied probability and stochastic processes</td>
</tr>
<tr>
<td>Thurai Kugan</td>
<td>Ph.D., Computer Science, University of Illinois at Urbana-Champaign</td>
<td>Computer Science: Operations Research I&amp;II (323-324); Object Oriented Programming (272); Game Theory (4xx); Financial Mathematics (277). Expertise - operations research, nonlinear optimization</td>
</tr>
<tr>
<td>Emerson Miller</td>
<td>M.A., Mathematics, University of California at Berkeley</td>
<td>Probability and Statistics: Calculus I, II, III, IV (241, 242, 243, 244); Advanced Calculus I&amp;II (341-442); Linear Algebra (310). Expertise - numerical analysis, mathematics education</td>
</tr>
<tr>
<td>Frank Panizzo</td>
<td>Ph.D., NYU Polytechnic, Bioengineering</td>
<td>Data Structures (373), Precalcuus (141), Calculus (241) Expertise - computer imaging, algorithms</td>
</tr>
<tr>
<td>Michael Puls</td>
<td>Ph.D., Mathematics, Virginia Polytechnic Institute and State University</td>
<td>Harmonic Analysis: Calculus I, II, III, IV (241, 242, 243, 244); Advanced Calculus I&amp;II (341-442); Linear Algebra (310); Operations Research I&amp;II (323-324); Image Processing (3xx). Expertise - group theory, pattern recognition, cryptography</td>
</tr>
<tr>
<td>Name</td>
<td>Education Details</td>
<td>Expertise</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Douglas Salane</td>
<td>Ph.D., Applied Mathematics, SUNY-Stony Brook</td>
<td><strong>Numerical Analysis and Computer Science:</strong> Calculus I, II, III, IV (241, 242, 243, 244); Discrete Mathematics (204) Linear Algebra (310); Numerical Analysis (371); Expertise – data clustering, numerical linear algebra, incident crime based reporting systems, high performance computing systems</td>
</tr>
<tr>
<td>Peter Shenkin</td>
<td>Ph.D., Mathematics, New York University</td>
<td><strong>Probability, Statistics, and Data Science:</strong> Data Bases and Data Mining (362); Mathematical Probability and Statistics I&amp;II (301-302); Multivariate Analysis (3xx); Data Analysis (4xx). Expertise - probability and statistics, data analysis, database systems</td>
</tr>
<tr>
<td>Dante Tawfeeq</td>
<td>Ph.D., Mathematics Education, Florida State University</td>
<td><strong>Mathematics Education:</strong> Calculus I, II, III, IV (241, 242, 243, 244). Expertise - mathematics curriculum design</td>
</tr>
<tr>
<td>Keith Thomas</td>
<td>Ph.D., The Graduate School and University Center, CUNY</td>
<td><strong>Calculus:</strong> Calculus I, II, III, IV (241, 242, 243, 244). Expertise – mathematics education</td>
</tr>
<tr>
<td>Antoinette Trembinska</td>
<td>Ph.D., Mathematics, Northwestern University</td>
<td><strong>Complex Analysis:</strong> Calculus I, II, III, IV (241, 242, 243, 244); Linear Algebra (310); Advanced Calculus I (351).</td>
</tr>
<tr>
<td>Bert Van Kluen</td>
<td>Ph.D., Mathematics University of Groningen, the Netherlands</td>
<td><strong>Dynamical and Stochastic Systems:</strong> Cryptography and Cryptanalysis (360) Expertise - mathematical systems theory (systems and control, dynamical models, feedback systems), data described by Markov type models</td>
</tr>
</tbody>
</table>
H. Cost Assessment

1. Faculty

The department presently offers an undergraduate major, Computer Science and Information Security, and a master’s degree in Digital Forensics and Cyber Security. Given the recent hiring of faculty with proficiency in forensic computing, the department now has considerable breadth of expertise amongst its faculty. Thus the faculty talent to staff the courses in the proposed mathematics major is already in place. In fact, one can say with confidence that the capabilities of the existing faculty are a resource that is commensurate with the scholarship and responsibilities necessary for mounting the new program.

Shifting priorities in the college's general education requirements have thus far enabled the department to address the increased demand for upper division courses. Indeed, majors throughout the college are requiring or encouraging students to take higher level mathematics courses, particularly calculus, and advanced probability and statistics, since data analytics plays an increasingly important role in a wide range of disciplines. In addition, the Computer Science and Information Security major now has approximately 500 students, many of whom are either pursuing a mathematics minor or are interested in the mathematical foundations of cryptography. Consequently, during the past three years the number of upper level mathematics sections (i.e. MAT 241- Calculus I or higher) has increased dramatically whereas the number of general education sections (MAT 108 – Social Science Mathematics or lower) has decreased, particularly after the reductions mandated by the Pathways initiative. The department has repositioned faculty resources accordingly.

Implementation of the new major, however, will necessitate that some of the fulltime faculty who periodically teach lower division courses will have a portion of their responsibilities shifted towards upper level courses though not entirely eliminating their presence in the lower division. To address such a modest shift, several additional adjunct instructors will be required. New course offerings in the major should not exceed 2-6 sections per year. The cost of the sections is calculated at the Adjunct Assistant Professor rate. In years one and two this would cost approximately $7,000. The number of adjunct taught sections would increase in year three to six and cost approximately $21,000. See attached financial tables for exact cost figures. Inflation has been figured at 3%.

2. Library

We consulted with Prof. Ellen Sexton, Interim Interlibrary Loan Librarian, CUNY Institutional Repository Librarian, to determine the library resources that are available to support the
proposed major. Since most other CUNY colleges already offer majors in the mathematical sciences, the CUNY library system is sufficient, for the most part, to support the proposed major. Indeed, John Jay College already has access to two noteworthy archives, MathSciNet of the AMS (American Mathematical Society) and the IEEE (Institute of Electrical and Electronics Engineers) Xplore Digital Library. The former is a repository of articles and journals in mathematics published by the American Mathematical Society whereas the latter provides access to scientific and technical content published by the IEEE and partners including journals, magazines, conference proceedings and standards. Within CUNY+, conference proceeding are available via SpringerLink e.g. Encyclopedia of Cryptography and Security, 2011; Encyclopedia of Cybercrime, 2009; and Encyclopedia of Information Ethics and Security, 2009.

John Jay students have unfettered access to all of the resources of the CUNY library system via CLICS which enables them to borrow books directly from almost all other CUNY libraries. Because it would be convenient to have some resources locally on campus, John Jay’s Lloyd Sealy Library would need to acquire some textbooks and monographs especially those that support the Data Science and Cryptography concentrations. Preliminary lists of titles in each category have been compiled and it is estimated that an initial investment of $5,000 and a continuing investment of $2,000 for the next few years would suffice to augment the library’s already substantial access to literature in the mathematical sciences.

3. Major Coordination

Each major at the college has a faculty member designated as the major coordinator. At John Jay, major coordinators receive one course release per year to carry out their responsibilities. Consequently, the cost of major coordination for the proposed mathematics major will be approximately $4,000 annually which represents the cost of an adjunct instructor to replace a faculty member in the classroom for one course.

4. Major Advisement

Students in the major will be advised by fulltime faculty in the Mathematics & Computer Science Department. The college provides one course release for this function for majors with modest enrollment. The cost to replace a fulltime faculty member in the classroom for one course will again be approximately $4,000.

5. Miscellaneous Expenses

Estimated miscellaneous expenses to launch the major will involve marketing and promotion in the amount of $5,000 during the first year and then decline to $3,000 per annum for the following few years.
Summing the cost of additional adjunct instructors, library acquisition and maintenance, a major coordinator and a student adviser, as well as marketing and promotional expenses, the total aggregate cost necessary to mount the major during the first year is $26,500 and in subsequent years, it is $41,000. The increase in cost in the out years is due to the projected increase in enrollment and the need for more adjunct faculty. The revenue generated by the program ($439,000) far exceeds the costs of implementing the program.
I. Program Assessment

The Department of Mathematics and Computer Science has already made a serious commitment to taking reasonable steps to assure that all mathematics courses are meeting their learning goals and serving the student population as intended. In particular, the proposed Mathematics major would be an important part of this continuing effort. Indeed, within the department, there are several working groups charged with articulating learning objectives and learning outcomes for mathematics courses at all levels. One product of this effort is that uniform calculus syllabi are now available on line. Going forward, the department expects to post syllabi for all of its course offerings with clearly stated learning objectives and learning outcomes thereby providing an important benchmark by which to measure the major’s effectiveness. Outcome assessment is part of the department’s continuous commitment to evaluate the attainment of learning goals in all its courses. A five year cycle of course outcome assessment is a short term goal for all courses and those courses germane to the Mathematics major courses will be included in that cycle.

Another important benchmark for assessment of a program’s effectiveness is whether its graduates are either gainfully employed within a short time after graduation or whether they have been accepted for admission into graduate programs underneath the broad umbrella of the mathematical sciences. In either case, the department plans, to best of its ability, to maintain a data base of alumni in order to track their career and education paths following graduation as well as respective starting salaries and fellowship/assistantship awards. Plainly, the percentage of students that successfully transition to these important next life steps is a significant metric for judging a program’s effectiveness and faithfulness to its goals. In addition, periodic surveys are planned of both employers and alumni to gain feedback to determine whether new hires are meeting employers’ expectations or whether new graduate students are meeting program expectations and whether alumni find their skill sets adequate for their post graduate experience whatever it may be. There is no better measure of whether a program is meeting its learning objectives (cf. supra section F.1) than the ability of its alumni to thrive in their subsequent life stations.

The department expects to fully participate in and conform to John Jay’s institutional assessment protocol vis-à-vis the new major. It should also be noted that the department has gained considerable experience with the assessment process from its on-going evaluation of the present mathematics minor. An annual outcomes report will be distributed to all the mathematics major’s faculty prior to the start of each academic year and will be discussed at the first departmental meeting. The report will summarize findings of student achievement and areas where improvement is indicated. The department faculty acting as a committee of the whole will
determine appropriate remedial steps whose implementation will then be facilitated by the
department curriculum committee.

A long term perspective is provided by the five year assessment cycle that John Jay has adopted
for programs and majors. The curricular review involves preparation of a self-study report by
the faculty of the major, a site visit by outside evaluators, and the subsequent development of an
action plan with the Dean of the Undergraduate Studies to address the recommendations of the
evaluation team. Curricular revisions would be implemented in the subsequent academic year.
Appendices

A. Existing Mathematics Courses

Course Descriptions for Existing Math Courses

CSCI 272 Object-Oriented Programming
3 hours, 3 credits
This course is a continuation of algorithmic problem solving introducing more advanced methods, particularly object-oriented design. Topics include procedural abstraction; user defined static, dynamic and generic data types, linked structures, sorting and searching, event-driven programming and recursion. Abstract data types, inheritance and polymorphism are examined in detail. Principles of rigorous programming practice and software development are emphasized.
Prerequisites: ENG 101, and CSCI 271 or MAT 271

CSCI 277 Computers for Administrative Decision Making
3 hours, 3 credits
Examination of executive decision problems selected from various areas of public administration. Formulation of problems for computer solution, with students participating in the managerial decision making process. No previous computer programming knowledge is assumed.
Prerequisites: ENG 101 and 6 credits of mathematics

CSCI 360 Cryptography and Cryptanalysis
3 hours, 3 credits
Cryptographic codes and ciphers play a key role in the protection of information and modern communications. This course examines the central topics in cryptography (the art of designing codes and ciphers) and cryptanalysis (the art of breaking codes and ciphers). Students first explore historical encryption schemes such as Caesar’s cipher and substitution ciphers. They then investigate modern techniques including secret key schemes such as DES and AES and Public key methods such as RSA and Elliptic Curves. This course takes a hands-on approach to studying these techniques in that the student will write programs that make and break codes. The ethical and legal considerations that arise in code breaking are also discussed and illustrated through case studies.
Prerequisites: ENG 201, and MAT 204, and CSCI 272 or MAT 272

CSCI 362 Data Base and Data Mining
3 hours, 3 credits
In this course, students will understand the fundamental principles of database management systems (DBMS). Through projects, they will gain valuable skills on how to design scalable
databases using entity-relationship diagrams. They will learn how to extract useful information from the database by discovering patterns within the underlying data. Finally, they will develop database analyst skills using SQL, and use this to implement several real-life database applications. Students will gain hands-on experience with a modern DBMS platform (MySQL) by completing several exercises in the computer lab. Upon successful completion of this course, students will be able to design and organize a database to manage their application data, and be able to design queries to extract useful information from a database.

**Prerequisites:** ENG 201; CSCI 373 or MAT 373

**CSCI 373 Advanced Data Structures**
3 hours, 3 credits
The examination of commonly employed data structures such as stacks and queues will be the objective of the course. In addition, singly and doubly linked lists, hash-coded storage and searching, tree data structures along with the corresponding sorting methods such as heap sort and quick sort will be included. The application of these structures to the creation of data banks for public sector functions as well as the modeling of service facilities such as the courts and document processing agencies will be emphasized.

**Prerequisites:** ENG 101, and CSCI 272 or MAT 272

**MAT 141 Pre-Calculus**
3 hours, 3 credits
Recommended for Forensic Science majors. Topics include a study of the conic section, systems of linear equations, determinants, two-dimensional vector geometry functions and limits.

**Prerequisite:** placement examination, or MAT 105 or the equivalent

**Note:** This course satisfies the Required Core: Math and Quantitative Reasoning area of the Gen Ed Program.

**MAT 204 Discrete Structures**
3 hours, 3 credits
The course introduces fundamental ideas in discrete structures, serving as a basis for subsequent courses in computer information science. Topics include sets, functions and relations, the Pigeonhole Principle, basic counting methods, elementary logic, mathematical induction, recursion, trees and graph theory.

**Prerequisites:** ENG 101, and MAT 105 or the equivalent

**MAT 231 Linear Programming**
3 hours, 3 credits
The theory and application of linear programming techniques including the simplex method and duality principle. Applications will be chosen from problems in public and business management. Prerequisites: English 101. In addition: Mathematics 108 or 141. 3 hours, 3 credits
MAT 241 Calculus I
3 hours, 3 credits
The basic concepts of limit, continuity and derivative are presented. Differentiation and integration of algebraic functions are developed. Applications are made to related rates, problems of maxima and minima, and to finding areas and volumes.
**Prerequisites:** ENG 101, and MAT 141 or placement examination
**Note:** This course satisfies the Required Core: Math and Quantitative Reasoning area of the Gen Ed Program.

MAT 242 Calculus II
3 hours, 3 credits
Applies the concepts of Calculus I to transcendental functions. Introduces l’Hôpital’s method for dealing with indeterminate forms. Taylor series and general infinite series are discussed with respect to convergence and divergence.
**Prerequisites:** ENG 101 and MAT 241
**Note:** This course satisfies the Required Core: Math and Quantitative Reasoning area of the Gen Ed Program.

MAT 243 Calculus III
3 hours, 3 credits
Application of the techniques of elementary calculus to three dimensions, including vector calculus, surface area and arc length. Other topics discussed are the use of improper integrals in the form of Laplace integrals for solving ordinary differential equations, differentiation and the integration of infinite series.
**Prerequisites:** ENG 101 and MAT 242

MAT 244 Calculus IV
3 hours, 3 credits
In this course, which is the fourth course in the calculus sequence, multi-variable integration along with an introduction to vector analysis are discussed. Subjects studied include the gradient vector, maximum and minimum values, double and triple integrals over general regions, and the computation of multiple integrals using alternative coordinate systems. Vector fields, line integrals, path independence, Green’s theorem, the divergence theorem, surface integrals and Stokes’ theorem are also considered. Applications emphasizing the laws of classical physics will be presented.
**Prerequisites:** ENG 101 and MAT 243

MAT 301 Probability and Mathematical Statistics I
3 hours, 3 credits
Emphasis on the probability theory necessary for the study of statistical inference. Topics include studies of discrete, continuous and multivariate distributions. Applications to Courses Offered 252 www.jjay.cuny.edu/collegebulletins problems involving normal, binomial, Poisson and other distributions. Introduction to theory and methods of testing hypotheses and of estimation.
Prerequisites: ENG 201, MAT 241 or placement exam
Note: This course satisfies the Required Core: Math and Quantitative Reasoning area of the Gen Ed Program.

MAT 302 Probability and Mathematical Statistics II
3 hours, 3 credits
Theory and methods of testing statistical hypotheses including Neyman-Pearson theorem, likelihood ratio tests, power function study, etc. Point and interval estimation of statistical parameters, including study of unbiased, consistent, efficient and sufficient estimators. Results applied to problems from different fields involving binomial, Poisson, normal and related distributions.
Prerequisites: ENG 201 and MAT 301

MAT 310 Linear Algebra
3 hours, 3 credits Calculations with matrices, vector spaces, bases and dimensions, rank of a matrix, systems of linear equations, determinants, characteristic equations, eigenvalues and eigenvectors, and minimal polynomials.
Prerequisites: ENG 201, and MAT 241-242 or the equivalent

MAT 323 Operations Research Models I
3 hours, 3 credits
The construction of mathematical models for real-life situations with the application of operations research theory to obtain practical solutions. Problems are chosen from varied fields of endeavor with particular emphasis upon public sector-related topics, e.g., traffic flow, court procedures, network analysis and simulation techniques.
Prerequisites: ENG 201 and MAT 241

MAT 324 Operations Research Models II
3 hours, 3 credits
The construction of mathematical models for real-life situations with the application of operations research theory to obtain practical solutions. Problems are chosen from varied fields of endeavor with particular emphasis upon public sector-related topics, e.g., traffic flow, court procedures, network analysis and simulation techniques.
Prerequisites: MAT 323

MAT 341 Advanced Calculus I
3 hours, 3 credits
Rigorous study of the calculus of one variable. Topics include the real number system, limits, continuity, differentiation, Riemann-Stieltjes integration, Taylor's formula, and extreme values.
Prerequisites: ENG 201, MAT 242
MAT 351 Introduction to Ordinary Differential Equations
3 hours, 3 credits
Differential equations are introduced as a mathematical expression of the postulates and principles describing growth, decay, and oscillatory phenomena. Examples are chosen from biology, chemistry, economics, medicine, the public sector and the social sciences. The interpretation of the mathematical solutions with respect to the given problems is emphasized. The use of computers in problem solving is also included.

Prerequisites or co-requisites: ENG 201, MAT 242

MAT 352 Partial Differential Equations
3 hours, 3 credits
Derivation of the various types of classical differential equations, i.e., the one-dimensional oscillator, the wave equation as the description of the vibrating string, and the potential equation. Other types of differential equations governing physical phenomena are introduced. The techniques of integral transforms, eigen functions, among others, used to solve the equations. Emphasis on the technique and interpretation of solutions in qualitative and quantitative terms rather than on their theoretical basis.

Prerequisite: MAT 241 and MAT 242. Recommended co-requisites: MAT 243 and MAT 351

MAT 361 Introduction to the Functions of a Complex Variable
3 hours, 3 credits
Introduction to the system of complex numbers, functions of a complex variable, differentiation, and integration. Cauchy integral theorems and formulas; sequences and series, power series, Laurent expansion, singularities, etc. Prerequisite: Mathematics 243. 3 hours, 3 credits.

MAT 371 Numerical Analysis
3 hours, 3 credits
Introduction to various numerical approximation techniques and the concept of error. Schemes are developed for finding the approximate solutions of algebraic and transcendental equations. Numerical differentiation and integration, finite differences, interpolation and extrapolation, and asymptotic approximation are also discussed. Applications to various branches of science are made. Stress is on the usefulness and necessity of numerical computation.

Prerequisites: ENG 201 and MAT 242

MAT 410 Abstract Algebra
3 hours, 3 credits
Basic properties of groups, rings, ideals and fields. Isomorphisms and homomorphisms. Algebraic number developments. Field extensions.
MAT 442 Advanced Calculus II
3 hours, 3 credits
A rigorous study of multivariate calculus. Among the topics discussed are limits, continuity, differentiability, the implicit and inverse function theorems, multiple integrals, Green’s and Stokes’ theorems, infinite series, uniform convergence, improper integrals, and integral representations of functions.

Prerequisite: MAT 341 or the equivalent.
B. New Course Descriptions

MAT 3xx Multivariate Analysis
3 hours, 3 credits
Multivariate statistical analysis refers to multiple advanced techniques for examining relationships among multiple variables simultaneously. Multivariate procedures are developed which involve more than one dependent variable (also known as the outcome or phenomenon of interest), more than one independent variable (also known as a predictor) or possibly both. These techniques are widely applicable since researchers often hypothesize that a given outcome is influenced by more than one causative agent. Applications of multivariate methods are presented from a wide spectrum of statistical application: medicine, the physical and biological sciences, economics and social science, and industrial and commercial contexts.
Prerequisites: MAT 301, MAT 302, and MAT 310.

MAT 3xx Stochastic Processes
3 hours, 3 credits
Basic stochastic processes and applications are presented with an emphasis on problem solving. Topics include conditional probability and conditional expectation, discrete-time Markov chains, Poisson point processes, continuous-time Markov chains, renewal processes, stationary processes, and Gaussian processes. The study of probability models for stochastic processes involves a broad range of mathematical and computational tools and the course will strive for a balance between the mathematics and the applications.
Prerequisites: MAT 301 and MAT 302.

MAT 4xx Data Analysis
3 hours, 3 credits
Large collections of data have become increasingly easier to gather and store. Statistical and other mathematical tools will be introduced to extract useful information from such data collections thereby yielding deeper insights that allow for informed decisions and predictions. Topics include regression, matrix representation, clustering, classification, graph representations, and data visualization. A computational component that utilizes statistical software is included. Ethical and risk considerations of sharing privacy data will also be discussed along with relevant technologies such as anonymizing and encrypting applications.
Prerequisites: MAT 244 and MAT 302.

MAT 4xx Mathematical Cryptography
3 hours, 3 credits
The course is the capstone of the cryptography concentration. The entire mathematical skill set that has been acquired in the program must be brought to bear on the analyses of the cryptographic algorithms studied in order to understand why they are effective and what may
make them vulnerable. Seven projects of increasing difficulty are assigned throughout the semester and the students’ course grades are entirely determined by their performance on these projects. The final project is a substantive problem that finds its origin in a contemporary application as may be encountered in finance, digital communications, or data security.

**Prerequisites:** MAT 301, MAT 310, CSCI 360, and MAT 410.

**MAT 4xx Game Theory**
3 hours, 3 credits
The fundamentals of game theory are presented starting with basic terminology such as strategies, payoffs, and information. An analysis of simple games progresses to more complex ones. These will include single-move games, games with multiple rounds, games played with complete knowledge and those where information is imperfect, and games with just two players or multiple players. Decision-making and forecasting in multi-person environments are discussed in order to formulate objectives and actions that agents may take to achieve them. Several notions of individual rationality are introduced and subsequent restrictions on expected behavior are derived.

**Prerequisites:** MAT 204, MAT 241, and MAT 301.
C. New Course Syllabi
D. NYSED and CUNY Forms

NYSED Registration Form
Program of Study
Faculty Tables
Financial Tables
# Application for Registration of a New Program

## Task 1: Institution and Program Information

<table>
<thead>
<tr>
<th>Institution Information</th>
<th></th>
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<tbody>
<tr>
<td><strong>Institution Name:</strong></td>
<td>John Jay College of Criminal Justice</td>
</tr>
<tr>
<td>Institution Code (6 digits):</td>
<td>333000</td>
</tr>
<tr>
<td>Institution Address:</td>
<td>524 W. 59th Street</td>
</tr>
<tr>
<td>City:</td>
<td>New York</td>
</tr>
<tr>
<td>State/Country:</td>
<td>NY</td>
</tr>
<tr>
<td>Zip:</td>
<td>10019</td>
</tr>
<tr>
<td><strong>Regents Regions:</strong></td>
<td>New York City Region</td>
</tr>
<tr>
<td>Specify campus(s) of the institution where program is offered, if other than the main campus:</td>
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<tr>
<td>Specify any other additional campus(s) where the program is offered besides the ones selected above:</td>
<td>NA</td>
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<tr>
<td>If any courses will be offered off campus, indicate the location and number of courses and credits:</td>
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<tr>
<td>If the program will be registered jointly with another institution, please provide the partner institution's name:</td>
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## Program Information for New Programs

<table>
<thead>
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<td><strong>Degree Award:</strong></td>
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<td>(Please note: John Jay College also requests a separate NYSED program code for the CUNY Macaulay Honors College version of this program)</td>
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<td><strong>HEGIS code:</strong></td>
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<tr>
<td>Number of Credits*:</td>
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---

1 CUNY and SUNY institutions: contact System Administration for proposal submission process.

June 2014
* If the program contains multiple options or concentrations that affect the number of program credits, list the total number of program credits required for each option:

| Option/Concentration Name: Data Science and Cryptography | Credits: 12 |

If program is part of a dual degree program, provide the following information:

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<td>Degree Award:</td>
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<td>HEGIS code:</td>
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**Section III. Contact Information**

<table>
<thead>
<tr>
<th>Name of contact person</th>
<th>Ms. Katherine Killoran</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of contact person:</td>
<td>Executive Academic Director, Office of Undergraduate Studies</td>
</tr>
<tr>
<td>Telephone</td>
<td>212-237-8263</td>
</tr>
<tr>
<td>Fax:</td>
<td>NA</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:kkilloran@jjay.cuny.edu">kkilloran@jjay.cuny.edu</a></td>
</tr>
</tbody>
</table>
### Table 1a: Undergraduate Program Schedule

- **Indicate academic calendar type:** X_Semester _Quarter _Trimester _Other (describe)
- **Label each term in sequence, consistent with the institution’s academic calendar (e.g., Fall 1, Spring 1, Fall 2)**
- **Use the table to show how a typical student may progress through the program; copy/expand the table as needed.**

<table>
<thead>
<tr>
<th>Term: Fall 1</th>
<th>Check course classification(s)</th>
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<td>Course Number &amp; Title</td>
<td>Cr LAS Maj New Prerequisite(s)</td>
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<tr>
<td>Req Core: ENG 101 English Comp I</td>
<td>3 X</td>
<td>Req Core: ENG 201 English Comp II</td>
<td>3 X ENG 101</td>
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<tr>
<td>Req Core: MAT 141 Pre-Calculus</td>
<td>3 X Placement exam</td>
<td>MAT 204 Discrete Structures</td>
<td>3 X X MAT 105 or higher</td>
</tr>
<tr>
<td>Col Option: Justice Core First Year Seminar</td>
<td>3 X</td>
<td>Req Core: Life &amp; Physical Science</td>
<td>3 X</td>
</tr>
<tr>
<td>Flex Core: World Cultures – SPA 101</td>
<td>3 X</td>
<td>Col Option: Communication – SPA 102</td>
<td>3 X SPA 101</td>
</tr>
<tr>
<td>Flex Core: Creative Expression</td>
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<td>MAT 241 Calculus I</td>
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<td>Course Number &amp; Title</td>
<td>Cr LAS Maj New Prerequisite(s)</td>
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<tr>
<td>MAT 242 Calculus II</td>
<td>3 X X MAT 241</td>
<td>CSCI 272 Object-Oriented Programming</td>
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<tr>
<td>Flex Core: Scientific World [CSCI 271 Into to Computing &amp; Program (STEM variant)]</td>
<td>3 X X MAT 105 or higher</td>
<td>Col Option: Learning From the Past</td>
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<tr>
<td>Flex Core: Individual &amp; Society</td>
<td>3 X</td>
<td>MAT 243 Calculus III</td>
<td>3 X X MAT 242</td>
</tr>
<tr>
<td>MAT 310 Linear Algebra</td>
<td>3 X X MAT 241</td>
<td>MAT 351 Intro to Ordinary Differential Equa</td>
<td>3 X X MAT 242</td>
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<tr>
<td>Flexible Core: US Exp in its Diversity</td>
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<td>Flex Core 6th course</td>
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<td>Term credit total:</td>
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<td>Course Number &amp; Title</td>
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<td>Course Number &amp; Title</td>
<td>Cr LAS Maj New Prerequisite(s)</td>
</tr>
<tr>
<td>MAT 301 Probability &amp; Statistics</td>
<td>3 X X MAT 241</td>
<td>MAT 410 Abstract Algebra</td>
<td>3 X X MAT 242</td>
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<tr>
<td>MAT 244 Calculus IV</td>
<td>3 X X MAT 243</td>
<td>CSCI 373 Advanced Data Structures</td>
<td>3 X CSCI 272</td>
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<tr>
<td>Elective or Minor</td>
<td>3 X</td>
<td>Elective or Minor</td>
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<td>Course Number &amp; Title</td>
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<td>Course Number &amp; Title</td>
<td>Cr LAS Maj New Prerequisite(s)</td>
</tr>
<tr>
<td>MAT 341 Advanced Calculus I</td>
<td>3 X X MAT 244</td>
<td>MAT 4XX Mathematical Cryptography</td>
<td>3 X X CSCI 360, MAT 341</td>
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<tr>
<td>CSCI 360 Cryptography &amp; Cryptanalysis</td>
<td>3 X X MAT 272, CSCI 272</td>
<td>Elective or Minor</td>
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<td>Elective or Minor</td>
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<tr>
<td>Elective or Minor</td>
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<td>Elective or Minor</td>
<td>3 X</td>
</tr>
<tr>
<td>Term credit total:</td>
<td>15 9 6</td>
<td>Term credit total:</td>
<td>15 12 6</td>
</tr>
</tbody>
</table>

### Program Totals:
- **Cr:** credits
- **LAS:** liberal arts & sciences
- **Maj:** major requirement
- **New:** new course
- **Prerequisite(s):** list prerequisite(s) for the noted courses
- **Credits:** 120
- **Liberal Arts & Sciences: 102**
- **Major:** 51
- **Elective & Other:** 33

---

Use the table to show how a typical student may progress through the program; copy/expand the table as needed.
Table 1. Fulltime Faculty. Faculty teaching at the graduate level must have an earned doctorate/terminal degree or demonstrate special competence in the field. Provide information on faculty members who are full-time at the institution and who will be teaching each course in the major field or graduate program. The application addendum for professional licensure, teacher certification, or educational leadership certification programs may provide additional directions for those types of proposals.

<table>
<thead>
<tr>
<th>Faculty Member Name and Title (include and identify Program Director)</th>
<th>Program Courses to be Taught</th>
<th>Percent Time to Program</th>
<th>Highest and Other Applicable Earned Degrees &amp; Disciplines (include College/University)</th>
<th>Additional Qualifications: list related certifications/licenses; occupational experience; scholarly contributions, etc.</th>
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</thead>
<tbody>
<tr>
<td>Aftab Ahmad</td>
<td>Data Bases &amp; Data Mining (362)</td>
<td></td>
<td>Doctor of Science, Computer Science, George Washington University</td>
<td>Assessment of security, privacy, integrity and non-repudiation</td>
</tr>
<tr>
<td></td>
<td>Object Oriented Programming (272)</td>
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<tr>
<td></td>
<td>Cryptograph &amp; Cryptanalysis (360)</td>
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<tr>
<td>Leslie Chandrakantha</td>
<td>Probability &amp; Statistics I,II (301,302)</td>
<td></td>
<td>PhD, Mathematics Temple University</td>
<td>Probability and statistics, data analysis, use of simulation to teach statistical concepts</td>
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<tr>
<td></td>
<td>Multivariate Analysis (3xx)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data Analysis (4zz)</td>
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<tr>
<td>Sven Dietrich</td>
<td>Cryptograph and Cryptanalysis  (360)</td>
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<td>Doctor of Arts, Mathematics, Adelphi University</td>
<td>applied cryptography and computer/network security, analysis of malware, botnets and distributed denial of service attacks</td>
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<tr>
<td></td>
<td>Mathematical Cryptography (4xx)</td>
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<tr>
<td>Alvin Estrada</td>
<td>Calculus I and II (241,242)</td>
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<td>MA, Mathematics Education, Adelphi University</td>
<td>discrete mathematics, calculus pedagogy</td>
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<tr>
<td></td>
<td>Discrete Mathematics (204)</td>
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<tr>
<td>Konstantinos Georgatos</td>
<td>Multivariate Analysis (3xx)</td>
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<td>MPhil, PhD, Mathematics, The City University of New York</td>
<td>Logic and Artificial Intelligence. Belief and Information Merging</td>
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<td></td>
<td>Data Analysis (4xx)</td>
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<tr>
<td></td>
<td>Game Theory (3xx)</td>
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<td></td>
</tr>
</tbody>
</table>
Table 1. Fulltime Faculty. Faculty teaching at the graduate level must have an earned doctorate/terminal degree or demonstrate special competence in the field. Provide information on faculty members who are **full-time at the institution** and who will be teaching each course in the major field or graduate program. The application addendum for professional licensure, teacher certification, or educational leadership certification programs may provide additional directions for those types of proposals.

<table>
<thead>
<tr>
<th>Faculty Member Name and Title (include and identify Program Director)</th>
<th>Program Courses to be Taught</th>
<th>Percent Time to Program</th>
<th>Highest and Other Applicable Earned Degrees &amp; Disciplines (include College/University)</th>
<th>Additional Qualifications: list related certifications/licenses; occupational experience; scholarly contributions, etc.</th>
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</thead>
<tbody>
<tr>
<td>Samuel Graff</td>
<td>Ordinary Differential Equations (351)</td>
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<td>PhD, Mathematics New York University</td>
<td>analysis, differential equations, quantum computing</td>
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<td></td>
<td>Partial Differential Equations (352)</td>
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<td>Advanced Calculus I&amp;II (341/442)</td>
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<td></td>
<td>Mathematical Cryptography (4xx)</td>
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<tr>
<td>Hunter Johnson</td>
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<td>theoretical machine learning, analysis of statistical classification algorithms, cryptography</td>
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<td>Shaobai Kan</td>
<td>Object Oriented Programming (272)</td>
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<td>data analysis, system identification, mathematical statistics, stochastic control, applied probability and stochastic processes</td>
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<td>Multivariate Analysis (3xx)</td>
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<tr>
<td>Thurai Kugan</td>
<td>Operations Research I,II (323, 324)</td>
<td></td>
<td>PhD, Computer Science, University of Illinois at Urbana-Champaign</td>
<td>operations research, nonlinear optimization</td>
</tr>
<tr>
<td></td>
<td>Object Oriented Programming (272)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Game Theory (3xx)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial Mathematics (277)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emerson Miller</td>
<td>Calculus I,II,III &amp; IV (241,242,243,244)</td>
<td></td>
<td>MA, Mathematics, University of California at Berkeley</td>
<td>numerical analysis, mathematics education</td>
</tr>
<tr>
<td></td>
<td>Advanced Calculus I,II (341,442)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linear Algebra (310)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1. **Fulltime Faculty.** Faculty teaching at the graduate level must have an earned doctorate/terminal degree or demonstrate special competence in the field. Provide information on faculty members who are **full-time at the institution** and who will be teaching each course in the major field or graduate program. The application addendum for professional licensure, teacher certification, or educational leadership certification programs may provide additional directions for those types of proposals.

<table>
<thead>
<tr>
<th>Faculty Member Name and Title (include and identify Program Director)</th>
<th>Program Courses to be Taught</th>
<th>Percent Time to Program</th>
<th>Highest and Other Applicable Earned Degrees &amp; Disciplines (include College/University)</th>
<th>Additional Qualifications: list related certifications/ licenses; occupational experience; scholarly contributions, etc.</th>
</tr>
</thead>
</table>
| Frank Pannizo | Calculus I, II (241, 242)  
Advanced Data Structures (373)  
Discrete Mathematics (204) |  | NYU Polytechnic University, Bio Engineering | computer imaging, algorithms |
| Michael Puls | Calculus I,II,III & IV, Advanced Calculus (241,242,243,244,341)  
Operations Research I,II (323,324)  
Linear Algebra (310)  
Image Processing (3xx)  
Advanced Calculus I,II (341,442) |  | PhD, Mathematics, Virginia Polytechnic Institute and State University | group theory, pattern recognition, cryptography |
| Douglas Salane | Calculus I,II,III & IV (241,242,243,244)  
Numerical Analysis (371)  
Discrete Mathematics (204)  
Linear Algebra (310) |  | PhD, Applied Mathematics, SUNY Stony Brook | numerical analysis and numerical linear algebra, optimization, data clustering, incident based crime reporting systems, high performance computing systems |
| Peter Shenkin | Databases & Datamining (CSCI 362)  
Probability & Statistics (MAT 301 & 302)  
Multivariate Analysis (3XX)  
Data Analysis (4xx) |  | PhD, Mathematics, New York University | probability and statistics, data analysis, database systems |
| Dante Tawfeeq | Calculus I, II, III & IV (241,242,243 & 244) |  | PhD, Mathematics Education, Florida State University | mathematics curriculum design, Fullbright Scholar 2015 |
Table 1. Fulltime Faculty. Faculty teaching at the graduate level must have an earned doctorate/terminal degree or demonstrate special competence in the field. Provide information on faculty members who are full-time at the institution and who will be teaching each course in the major field or graduate program. The application addendum for professional licensure, teacher certification, or educational leadership certification programs may provide additional directions for those types of proposals.

<table>
<thead>
<tr>
<th>Faculty Member Name and Title (include and identify Program Director)</th>
<th>Program Courses to be Taught</th>
<th>Percent Time to Program</th>
<th>Highest and Other Applicable Earned Degrees &amp; Disciplines (include College/University)</th>
<th>Additional Qualifications: list related certifications/ licenses; occupational experience; scholarly contributions, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keith Thomas</td>
<td>Calculus I, II, III &amp; IV (241,242,243 &amp; 244)</td>
<td></td>
<td>PhD, The Graduate School and University Center, CUNY</td>
<td>mathematics education</td>
</tr>
<tr>
<td>Antoinette Trembinska</td>
<td>Calculus I, II, III, IV (241,242,243 &amp; 244) Linear Algebra (310) Advanced Calculus (341)</td>
<td></td>
<td>PhD, Mathematics, Northwestern University</td>
<td>complex analysis</td>
</tr>
<tr>
<td>Bert Van Kluen</td>
<td>Cryptograph and Cryptanalysis, object oriented programming,</td>
<td></td>
<td>PhD, Mathematics, University of Groningen, the Netherlands</td>
<td>mathematical systems theory (systems and control, dynamical models, feedback systems), data described by Markov type models.</td>
</tr>
<tr>
<td>Expenditures</td>
<td>Year 1 2014-15</td>
<td>Year 2 2015-16</td>
<td>Year 3 2016-17</td>
<td>Year 4 2017-18</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Full Time Faculty</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Part Time Faculty</td>
<td>$ 16,447.38</td>
<td>$ 16,939.60</td>
<td>$ 34,894.74</td>
<td>$ 35,940.10</td>
</tr>
<tr>
<td>Full Time Staff</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Part Time Staff</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Library (Includes Staffing)</td>
<td>$ 5,000.00</td>
<td>$ 2,000.00</td>
<td>$ 2,000.00</td>
<td>$ 1,000.00</td>
</tr>
<tr>
<td>Equipment</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Laboratories</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Supplies &amp; Expenses (Other than Personal Services)</td>
<td>$ 5,000.00</td>
<td>$ 3,000.00</td>
<td>$ 3,000.00</td>
<td>$ 3,000.00</td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Other</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Total all</td>
<td>$ 26,447.38</td>
<td>$ 21,939.60</td>
<td>$ 39,894.74</td>
<td>$ 39,940.10</td>
</tr>
</tbody>
</table>

Rate of inflation used is 3%
## Projected Revenue Related to the Proposed Program

<table>
<thead>
<tr>
<th>Revenues[1]</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Year 2014-15</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Year 2015-16</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Year 2016-17</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; Year 2017-18</th>
<th>5&lt;sup&gt;th&lt;/sup&gt; Year 2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuition Revenue[3]</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01. From Existing Sources[4]</td>
<td>$37,950</td>
<td>$100,200</td>
<td>$177,434</td>
<td>$271,763</td>
<td>$288,293</td>
</tr>
<tr>
<td>02. From New Sources[5]</td>
<td>$86,074</td>
<td>$122,014</td>
<td>$144,625</td>
<td>$147,518</td>
<td>$150,468</td>
</tr>
<tr>
<td><strong>03. Total</strong></td>
<td>$86,074</td>
<td>$122,014</td>
<td>$144,625</td>
<td>$147,518</td>
<td>$150,468</td>
</tr>
<tr>
<td><strong>Other Revenue[7]</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07. From Existing Sources§</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>08. From New Sources**</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>09. Total</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Grand Total[8]</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. From Existing Sources§</td>
<td>$37,950</td>
<td>$100,200</td>
<td>$177,434</td>
<td>$271,763</td>
<td>$288,293</td>
</tr>
<tr>
<td>11. From New Sources**</td>
<td>$124,024</td>
<td>$222,214</td>
<td>$322,059</td>
<td>$419,281</td>
<td>$438,761</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$124,024</td>
<td>$222,214</td>
<td>$322,059</td>
<td>$419,281</td>
<td>$438,761</td>
</tr>
</tbody>
</table>

**Notes:**

1. Inflation rate used for projections is 3%.  

---

**Footnotes:**

- [§] = Section
- [**] = Reference

---

**Table:**

- Projected revenues are projected based on historical data and assumptions regarding future growth and inflation.
- Tuition revenue is projected to increase annually due to inflation.
- Other revenue is assumed to remain constant.

---

**Analysis:**

- The projected revenue for the 5<sup>th</sup> year (2018-19) is $438,761.
- tuition revenue is a significant contributor to the overall projected revenue.
- other revenue is a minor but consistent source of revenue.

---

**Conclusion:**

- The proposed program is expected to generate significant revenue, with the highest projected revenue in the 5<sup>th</sup> year.
- The revenue projections are subject to market factors and economic conditions.

---
### DIRECT OPERATING EXPENSES

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include additional expenses incurred by other programs when satisfying needs of new program. Faculty need should be commensurate with &quot;net section needs&quot; based on enrollment (see &quot;Enroll &amp; Seat Need Projections&quot; tab)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Current Full Time Faculty Overload (include Summer)**

**New Full Time Faculty Base Salary (Asst. Prof. rank)**

**New Full Time Faculty Overload (include Summer)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Faculty Re-assigned Time (list seperately)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Full Time Employee Fringe Benefits (41.6%)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total</strong> (Links to Full-Time Faculty on Program Exp Worksheet)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Part Time Faculty Actual Salaries**

1 course for adjunct faculty to replace FT Faculty to Coordinate Major - 1 course release per year (calculated at Asst Prof. Rank $73.53 x 45 hrs)

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>$3,308</td>
<td>$3,407</td>
<td>$3,509</td>
<td>$3,614</td>
<td>$3,722</td>
<td></td>
</tr>
</tbody>
</table>

1 course for adjunct faculty to replace FT faculty who provides advisement & assessment in the major - 1 course release per year (calculated at Asst Prof. Rank $73.53 x 45 hrs)

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>$3,308</td>
<td>$3,407</td>
<td>$3,509</td>
<td>$3,614</td>
<td>$3,722</td>
<td></td>
</tr>
</tbody>
</table>

Adjunct faculty taught sections (Asst. Prof. Rank, $73.53 x 45 hrs), starting we 2 sections until yr 3, when it increases to 6

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6,616</td>
<td>$6,814</td>
<td>$21,055</td>
<td>$21,686</td>
<td>$22,337</td>
<td></td>
</tr>
</tbody>
</table>

**Part Time Faculty Actual Fringe Benefits (24.3%)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>$3,215</td>
<td>$3,312</td>
<td>$6,822</td>
<td>$7,026</td>
<td>$7,237</td>
<td></td>
</tr>
</tbody>
</table>

**Worksheet**

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>$16,447</td>
<td>$16,940</td>
<td>$34,895</td>
<td>$35,940</td>
<td>$37,018</td>
<td></td>
</tr>
</tbody>
</table>

**Full Time Staff Base Salary (list separately)**

**Full Time Staff Fringe Benefits (41.6%)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Worksheet**

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>Year 1</td>
<td>Year 2</td>
<td>Year 3</td>
<td>Year 4</td>
<td>Year 5</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>PART-TIME STAFF</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(do not include library staff in this section)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part Time Staff Base Salary (list separately)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty Replacement Costs (replacement of full-time faculty - e.g. on release time - with part-time faculty)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate Assistants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Hourly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part Time Employee Fringe Benefits (24.3%)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Worksheet</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>LIBRARY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library Resources</td>
<td>$5,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$1,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>Library Staff Full Time (List Separately)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Time Staff Fringe Benefits (41.6%)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Library Staff Part Time (List Separately)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part Time Employee Fringe Benefits (24.3%)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$5,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$1,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>(Links to Library on Program Exp Worksheet)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EQUIPMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Hardware</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Furniture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (Links to Equipment on Program Exp Worksheet)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>LABORATORIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Equipment</td>
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<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Other (list separately)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>(Links to Laboratories on Program Exp Worksheet)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUPPLIES AND EXPENSES (OTPS)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultants and Honoraria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Office Supplies  | Instructional Supplies  | Faculty Development  | Travel and Conferences  | Membership Fees  | Advertising and Promotion  | $5,000 | $3,000 | $3,000 | $3,000 | $3,000  
Accreditation  | Computer Software  | Computer License Fees  | Computer Repair and Maintenance  | Equipment Repair and Maintenance  |

<table>
<thead>
<tr>
<th>New Total Supplies and OTPS Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Links to Supplies on Program Exp Worksheet)</td>
</tr>
<tr>
<td>$5,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAPITAL EXPENDITURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility Renovations</td>
</tr>
<tr>
<td>Classroom Equipment</td>
</tr>
<tr>
<td>Other (list separately)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Links to Capital Expenditures on Program Exp Worksheet)</td>
</tr>
<tr>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>(list separately)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Links to Other on Program Exp Worksheet)</td>
</tr>
<tr>
<td>$0</td>
</tr>
</tbody>
</table>

Rate of inflation used is 3%
### The Five-Year Revenue Projections for Program

**SENIOR COLLEGE (UNDERGRADUATE) WORKSHEET**

**Year 1 = Fall 2016**

#### EXISTING FULL-TIME STUDENTS

<table>
<thead>
<tr>
<th>Tuition &amp; Fees:</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td># of EXISTING FULL-TIME, In-State Students (linked from &quot;Enroll &amp; Seat Need Projections&quot;) - 95% of JJ students are NYS residents</td>
<td>5</td>
<td>13</td>
<td>24</td>
<td>33</td>
<td>34</td>
</tr>
<tr>
<td>Tuition Income (calculates 2% increase per year after Fall 2015)</td>
<td>$6,030</td>
<td>$6,330</td>
<td>$6,457</td>
<td>$6,586</td>
<td>$6,717</td>
</tr>
<tr>
<td>Total Tuition</td>
<td>$30,150</td>
<td>$82,290</td>
<td>$154,958</td>
<td>$217,329</td>
<td>$228,393</td>
</tr>
<tr>
<td>Student Fees (enter ANNUAL program fees other than standard CUNY fees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fees</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total In-State Tuition &amp; Fees</td>
<td>$30,150</td>
<td>$82,290</td>
<td>$154,958</td>
<td>$217,329</td>
<td>$228,393</td>
</tr>
</tbody>
</table>

#### Tuition & Fees:

<table>
<thead>
<tr>
<th># of EXISTING FULL-TIME, Out-of-State Students (linked from &quot;Enroll &amp; Seat Need Projections&quot;) - 5% of JJ students are from out of state</th>
<th>0</th>
<th>1</th>
<th>1</th>
<th>2</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Avg # of Credits per FT student (24-30)</td>
<td>17.25</td>
<td>17.25</td>
<td>17.25</td>
<td>17.25</td>
<td>17.25</td>
</tr>
<tr>
<td>Tuition Income (Specify Rate per credit. Calculates 2% annual increase after Fall 2015)</td>
<td>$535</td>
<td>$560</td>
<td>$571</td>
<td>$583</td>
<td>$594</td>
</tr>
<tr>
<td>Total Tuition</td>
<td>$0</td>
<td>$9,660</td>
<td>$9,853</td>
<td>$20,101</td>
<td>$20,503</td>
</tr>
<tr>
<td>Student Fees (enter ANNUAL program fees other than standard CUNY fees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fees</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Out-of-State Tuition &amp; Fees</td>
<td>$0</td>
<td>$9,660</td>
<td>$9,853</td>
<td>$20,101</td>
<td>$20,503</td>
</tr>
</tbody>
</table>

**TOTAL EXISTING FULL-TIME TUITION REVENUE**  

| $30,150 | $91,950 | $164,812 | $237,430 | $248,896 |

#### EXISTING PART-TIME STUDENTS

<table>
<thead>
<tr>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | | | |
|          |          |            |           |           |</p>
<table>
<thead>
<tr>
<th>Tuition &amp; Fees:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong># of EXISTING PART-TIME, In-State Students</strong> (linked from &quot;Enroll &amp; Seat Need Projections&quot;)</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Enrolled Credits</strong> (Enter Avg # credits per student per year- Fall+ Spring+Summer -- i.e. 6 Fall, 6 Spring, 3 Summer=15)</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td><strong>Tuition Income</strong> (Specify Rate per credit. Calculates 2% increase per year after Fall 2015)</td>
<td>$260</td>
<td>$275</td>
<td>$281</td>
<td>$286</td>
<td>$292</td>
</tr>
<tr>
<td><strong>Total Tuition</strong></td>
<td>$7,800</td>
<td>$8,250</td>
<td>$12,623</td>
<td>$34,333</td>
<td>$39,397</td>
</tr>
<tr>
<td><strong>Student Fees</strong> (enter ANNUAL program fees other than standard CUNY fees)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total In-State Tuition &amp; Fees</strong></td>
<td>$7,800</td>
<td>$8,250</td>
<td>$12,623</td>
<td>$34,333</td>
<td>$39,397</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tuition &amp; Fees:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong># of EXISTING PART-TIME Out of State Students</strong> (linked from &quot;Enrollment and Seat Need Projections&quot;)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Enrolled Credits</strong> (Enter Avg # credits per student per year- Fall+ Spring+Summer -- i.e. 6 Fall, 6 Spring, 3 Summer=15)</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td><strong>Tuition Income</strong> (Specify Rate per credit. Calculates 2% increase per year after Fall 2015)</td>
<td>$535</td>
<td>$560</td>
<td>$571</td>
<td>$583</td>
<td>$594</td>
</tr>
<tr>
<td><strong>Total Tuition</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Student Fees</strong> (enter ANNUAL program fees other than standard CUNY fees)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Out-of-State Tuition &amp; Fees</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**TOTAL EXISTING PART TIME REVENUE** | $7,800 | $8,250 | $12,623 | $34,333 | $39,397 |

**TOTAL EXISTING REVENUE (LINKS TO REVENUE SPREADSHEET ROW 5)** | $37,950 | $100,200 | $177,434 | $271,763 | $288,293 |

**NEW FULL-TIME STUDENTS** | Year One | Year Two | Year Three | Year Four | Year Five | Tuition & Fees: |
<table>
<thead>
<tr>
<th># of NEW FULL-TIME, In-State Students</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition Income (Calculates 2% increase per year after Fall 2015)</td>
<td>$6,030</td>
<td>$6,330</td>
<td>$6,457</td>
<td>$6,586</td>
<td>$6,717</td>
</tr>
<tr>
<td>Total Tuition</td>
<td>$72,360</td>
<td>$107,610</td>
<td>$122,675</td>
<td>$125,129</td>
<td>$127,631</td>
</tr>
<tr>
<td>Student Fees (enter ANNUAL program fees other than standard CUNY fees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fees</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total In-State Tuition &amp; Fees</td>
<td>$72,360</td>
<td>$107,610</td>
<td>$122,675</td>
<td>$125,129</td>
<td>$127,631</td>
</tr>
</tbody>
</table>

Tuition & Fees:

<table>
<thead>
<tr>
<th># of NEW FULL-TIME, Out-of-State Students</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition Income (Specify Rate per credit. Calculates 2% increase per year after Fall 2015)</td>
<td>$535</td>
<td>$560</td>
<td>$571</td>
<td>$583</td>
<td>$594</td>
</tr>
<tr>
<td>Total Tuition</td>
<td>$9,229</td>
<td>$9,660</td>
<td>$9,853</td>
<td>$10,050</td>
<td>$10,251</td>
</tr>
<tr>
<td>Student Fees (enter ANNUAL program fees other than standard CUNY fees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fees</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Out-of-State Tuition &amp; Fees</td>
<td>$9,229</td>
<td>$9,660</td>
<td>$9,853</td>
<td>$10,050</td>
<td>$10,251</td>
</tr>
</tbody>
</table>

TOTAL NEW FULL-TIME TUITION REVENUE | $81,589 | $117,270 | $132,529 | $135,179 | $137,883 |

NEW PART-TIME STUDENTS

<table>
<thead>
<tr>
<th>Tuition &amp; Fees:</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td># of NEW PART-TIME, In-State Students (linked from &quot;Enroll &amp; Seat Need Projections&quot;)</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total Enrolled Credits (Enter Avg # credits per student per year- Fall+ Spring+Summer -- i.e. 6 Fall, 6 Spring, 3 Summer=15)</td>
<td>8.625</td>
<td>8.625</td>
<td>8.625</td>
<td>8.625</td>
<td>8.625</td>
</tr>
<tr>
<td>Tuition Income (Specify Rate per credit. Calculates 2% increase per year after Fall 2015)</td>
<td>$260</td>
<td>$275</td>
<td>$281</td>
<td>$286</td>
<td>$292</td>
</tr>
<tr>
<td>Total Tuition</td>
<td>$4,485</td>
<td>$4,744</td>
<td>$12,097</td>
<td>$12,338</td>
<td>$12,585</td>
</tr>
</tbody>
</table>
### Student Fees (enter ANNUAL program fees other than standard CUNY fees)

<table>
<thead>
<tr>
<th></th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fees</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total In-State Tuition &amp; Fees</strong></td>
<td>$4,485</td>
<td>$4,744</td>
<td>$12,097</td>
<td>$12,338</td>
<td>$12,585</td>
</tr>
</tbody>
</table>

### Tuition & Fees:

<table>
<thead>
<tr>
<th># of NEW PART-TIME, Out-of-State Students</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Enrolled Credits</td>
<td>8.625</td>
<td>8.625</td>
<td>8.625</td>
<td>8.625</td>
<td>8.625</td>
</tr>
<tr>
<td><strong>Tuition Income (Specify Rate per credit) calculates 2% increase per year</strong></td>
<td>$535</td>
<td>$560</td>
<td>$571</td>
<td>$583</td>
<td>$594</td>
</tr>
<tr>
<td>Total Tuition</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Student Fees (enter ANNUAL program fees other than standard CUNY fees)</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

| Total Fees | 0 | 0 | 0 | 0 | 0 |
| **Total Out-of-State Tuition & Fees** | $0 | $0 | $0 | $0 | $0 |

**TOTAL NEW PART-TIME REVENUE**

<table>
<thead>
<tr>
<th></th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL REVENUE (LINKS TO REVENUE SPREADSHEET ROW 7)</strong></td>
<td>$4,485</td>
<td>$4,744</td>
<td>$12,097</td>
<td>$12,338</td>
<td>$12,585</td>
</tr>
</tbody>
</table>

### OTHER REVENUE

<table>
<thead>
<tr>
<th>Other Revenue From Existing Sources (specify and explain)</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Revenue New (specify and explain) (LINKS TO REVENUE SPREADSHEET ROW 15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

John Jay has a one-year retention rate of 77.6% based on entering class F14.

Enrollment projections assume a 4 year graduation rate of 19.1% which is our average graduation rate over the five most recent years.
<table>
<thead>
<tr>
<th>Projected Enrollment</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Full-time Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-State</td>
<td>5</td>
<td>13</td>
<td>24</td>
<td>33</td>
<td>34</td>
</tr>
<tr>
<td>Out-of-State</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Existing Full-time Total</td>
<td>5</td>
<td>14</td>
<td>25</td>
<td>35</td>
<td>36</td>
</tr>
<tr>
<td><strong>Existing Part-time Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-State</td>
<td>-</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Out-of-State</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Existing Part-time Total</td>
<td>-</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td><strong>New Full-time Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-State</td>
<td>12</td>
<td>17</td>
<td>19</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td>Out-of-State</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>NEW Full-time Total</td>
<td>13</td>
<td>18</td>
<td>20</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td><strong>New Part-time Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-State</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Out-of-State</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New Part-time Total</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

**NOTES:**

**New** students are students who would not otherwise have be enrolled in your college if this program were not offered. The proposal text should explain the basis for this enrollment estimate.

**Existing** Students are students currently enrolled in another program at your college, or students who would have enrolled in another program at your college, had the new program not been established.

<table>
<thead>
<tr>
<th>Section Seats per Student</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full-time Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing Courses</td>
<td>7.75</td>
<td>7.75</td>
<td>7.75</td>
<td>7.75</td>
<td>7.75</td>
</tr>
<tr>
<td>New Courses</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
</tr>
<tr>
<td>Total (normally equals 10)</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>
### Part-Time Students

<table>
<thead>
<tr>
<th></th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total (normally equals 4-6)</strong></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><strong>Existing Courses</strong></td>
<td>3.875</td>
<td>3.875</td>
<td>3.875</td>
<td>3.875</td>
<td>3.875</td>
</tr>
<tr>
<td><strong>New Courses</strong></td>
<td>1.125</td>
<td>1.125</td>
<td>1.125</td>
<td>1.125</td>
<td>1.125</td>
</tr>
</tbody>
</table>

### Seat & Section Needs

<table>
<thead>
<tr>
<th></th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Change in Seat Need for Existing Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing Courses</td>
<td>(11)</td>
<td>(34)</td>
<td>(60)</td>
<td>(88)</td>
<td>(91)</td>
</tr>
<tr>
<td>New Courses</td>
<td>11</td>
<td>34</td>
<td>60</td>
<td>88</td>
<td>91</td>
</tr>
<tr>
<td><strong>Seat Need for New Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing Courses</td>
<td>109</td>
<td>147</td>
<td>174</td>
<td>174</td>
<td>205</td>
</tr>
<tr>
<td>New Courses</td>
<td>32</td>
<td>43</td>
<td>51</td>
<td>51</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total Seat Need Change</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing Courses</td>
<td>97</td>
<td>114</td>
<td>115</td>
<td>87</td>
<td>114</td>
</tr>
<tr>
<td><strong>Avail. Seats in Existing Courses</strong></td>
<td></td>
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<td>6.33</td>
<td>7.50</td>
<td>7.50</td>
<td>8.83</td>
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</table>
E. Letters of Support – to be added

F. Articulation Agreement – to be added
JOHN JAY COLLEGE OF CRIMINAL JUSTICE  
The City University of New York  
Undergraduate Curriculum and Academic Standards Committee

Course Revision Form

Date Submitted: 09 May 2016

1. Name of Department or Program: Department of Sciences

2. Contact information of proposer(s):
   - Name(s): Sandra Swenson
   - Email(s): sswenson@jjay.cuny.edu
   - Phone number(s): 


4. Current course description:

   Paced Modern Biology 1-B is the second course in the two-semester alternative to Modern Biology I for those students who do not place into Biology 103. The series is an in-depth exploration of the basic properties of living systems on the molecular, cellular, and organismic levels. Topics in Biology 1-B include gene structure, function, and regulation. In the laboratory students will learn basic laboratory skills and experimental techniques, including measurement, identification of macromolecules, genetic crosses, and forensic DNA analysis.

   a. Number of credits: 3
   b. Number of class hours (please specify if the course has lab hours): 6 (3 lecture, 3 lab)

5. Describe the nature of the revision: 1) Change to pre-requisites

6. Rationale for the proposed change(s): The Sciences Department has recently created two additional science majors, Cell and Molecular Biology and Toxicology. Both these majors required the basic biology sequence and so students from those majors need to gain access to this course.

7. Text of proposed revisions (use NA, not applicable, where appropriate):

   a. Revised course description: N/A
   b. Revised course title: N/A
   c. Revised abbreviated title: N/A
   d. Revised learning outcomes: N/A
   e. Revised assignments and activities related to revised outcomes: N/A
   f. Revised number of credits: N/A
   g. Revised number of hours: N/A
   h. Revised prerequisites:
      - BIO 101, AND
      - Student is majoring in Forensic Science, Toxicology or Cell and Molecular Biology or minoring in Biology or CHE 100 (for pre-science majors)
8. Enrollment in past semesters:
   SP 15: 50          Sp 16: 37

9a. Will this course be offered as part of the new JJ General Education program (Common Core or College Option)?
   No _X__          Yes ___        If yes, please indicate the area:

10. Does this change affect any other departments?
    XX No          _____ Yes (if so what consultation has taken place)?

11. Date of Department or Program Curriculum Committee approval: May 10, 2016

12. Name of Department Chair(s) or Program Coordinator(s) approving this revision proposal:
    Larry Kobilinsky – Chair, Department of Sciences
John Jay College of Criminal Justice
The City University of New York
Undergraduate Curriculum and Academic Standards Committee

Course Revision Form

This form should be used for revisions to course titles, prefixes/numbers, course descriptions, and/or prerequisites. For small course content changes please also submit a syllabus. (Please note: for significant content changes you may be asked to complete a New Course Proposal Form). For inclusion in the CUNY Pathways General Education program at John Jay please include a syllabus and the CUNY Common Core or John Jay College Option Form.

Date Submitted: 4/22/16

1. Name of Department or Program: Psychology and Counseling

2. Contact information of proposer(s):

   Name(s): Angela Crossman
   Email(s): acrossman@jjay.cuny.edu
   Phone number(s): 212-237-8653

3. Current number, title, and abbreviated title of course: PSY 342 / CSL 342 - Introduction to Counseling Psychology

4. Current course description:

   Provides a theoretical survey of the field of counseling. Major emphasis is on such topics as ethical considerations, the intake interview, counselor roles and client roles, goals of counseling, referrals and liaisons in community, vocational counseling tests and instruments used in the counseling process, academic counseling and research on the counseling process. Differences between counseling and psychotherapy are discussed. Field trips to various counseling centers are arranged.

   a. Number of credits: 3 credits
   b. Number of class hours (please specify if the course has lab hours): 3 hours
   c. Current prerequisites: ENG 201, PSY 242 Abnormal Psychology and PSY 353 (formerly PSY 243) Theories of Personality

5. Describe the nature of the revision: We would like to remove PSY 353 (243) Theories of Personality as a prerequisite for this class.

6. Rationale for the proposed change(s):

   PSY 243 (Theories of Personality) has been changed to a 300-level course (PSY 353) and it does not make sense for it to be a prerequisite for another 300-level class. Also, neither
faculty in the Psychology Department nor the Counseling Department who teach the course deemed it necessary for students to take Theories of Personality (PSY 243 or 353) to succeed in this class, PSY/CSL 342.

7. Text of proposed revisions (use NA, not applicable, where appropriate):

   a. Revised course description: NA
   b. Revised course title: NA
   c. Revised abbreviated title: NA
   d. Revised learning outcomes: NA
   e. Revised assignments and activities related to revised outcomes: NA
   f. Revised number of credits: NA
   g. Revised number of hours: NA
   h. Revised prerequisites: ENG 201 and PSY 242

8. Enrollment in past semesters: Fall 2015: 59  Spring 2016: 60

9a. Will this course be offered as part of the new JJ General Education program (Common Core or College Option)?
   No XXX  Yes _____  If yes, please indicate the area:

10. Does this change affect any other departments?

    _____ No  ____XXX____ Yes (if so what consultation has taken place)?

We consulted with the Chair of the Counseling Department, as well as Counseling and Psychology faculty members teaching the course. There was uniform agreement that PSY 353 (243) is not a necessary prerequisite for PSY/CSL 342 and is an impediment to students in both programs registering for the course.

11. Date of Department or Program Curriculum Committee approval: 4/20/16

12. Name of Department Chair(s) or Program Coordinator(s) approving this revision proposal:
    Angela M. Crossman, Chair, Psychology Department
    Cary Sanchez, Chair, Counseling Department
JOHN JAY COLLEGE OF CRIMINAL JUSTICE  
The City University of New York

PROPOSAL FOR A NEW GRADUATE COURSE

When completed and approved by the appropriate Graduate Program, this proposal should be submitted to the Office of Graduate and Professional Studies for the consideration of the Committee on Graduate Studies. The proposal form, along with a syllabus and bibliography, should be submitted via email as a single attachment to the Associate Dean of Graduate Studies at rmeeks@jjay.cuny.edu.

Date submitted to the Office of Graduate Studies:  
Date of Program Approval: April 18, 2016  
Date of CGS Approval: 5/4/16

1. Contact information of proposer(s):

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<td><a href="mailto:abornstein@jjay.cuny.edu">abornstein@jjay.cuny.edu</a></td>
<td>X8287</td>
</tr>
</tbody>
</table>

2. Course details:

<table>
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<th>Program Name</th>
<th>CRJ MA</th>
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<tr>
<td>Course Prefix &amp; Number</td>
<td>CRJ 810</td>
</tr>
<tr>
<td>Course Title</td>
<td>Police Leadership</td>
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<tr>
<td>Catalog Description</td>
<td>This course explores and develops a conceptual framework for modern police leadership. The focus of the course will be on the complexity of leadership in law enforcement from the perspective of the individuals in their roles as leaders, peers, and followers, in the context of different social and organizational groups. Concepts discussed and analyzed may include: organizational culture, individual development, the dimensions and dynamics of police groups and subsystems, communication and counseling skills, ethical considerations, and adaptation processes in a changing society.</td>
</tr>
<tr>
<td>Pre- and/or Corequisites (specify which are pre, co, or both)</td>
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</tr>
<tr>
<td>Credits</td>
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</tr>
<tr>
<td>Contact Hours (per week)</td>
<td>3.0</td>
</tr>
<tr>
<td>Lab Hours</td>
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</tr>
</tbody>
</table>
3. **Rationale for the course** (will be submitted to CUNY in the Chancellor’s Report). Why should this program offer this course? (Explain briefly, 1-3 paragraphs).

Police leaders will face changing global realities, such as terrorism, globalization and increases numbers of migrants and refugees. Police managers and supervisors must change and adapt their leadership styles to meet these new challenges in leading a culturally diverse society and workforce. Safety and security concerns will intersect with the more traditional mission of police force. Cooperation across jurisdictional lines will require leaders to develop the organizational culture in their agencies that will support these requirements.

4. **Degree requirements satisfied by the course:**

Elective for the Policing specialization
Requirement for NYPD Leadership Graduate Certificate

5. **Has this course been taught on an experimental basis?**

Yes ___X___ No ______

If yes, please provide the following:
I. Semester(s) and Year(s): Continuously for over 10 years.
II. Teacher(s): Maki Haberfeld, William Fraher
III. Enrollment(s): 23
IV. Prerequisite(s): none

6. **Learning Outcomes:**

   a. What will students be able to demonstrate knowledge or understanding of or be able to do by the end of the course?

      1. Explain and analyze various formal concepts of leadership.
      2. Explain and analyze various challenges facing the leadership of contemporary police organizations.
      3. Develop a tool kit for leaders to apply in any given situation including diversity in the organization and the community.
      4. Demonstrate graduate level writing in essays.

   b. How do the course outcomes relate to the program’s outcomes?
      These outcomes goals are geared to educate students about leadership in policing, which is a critical issue in contemporary criminal justice, as well as to improve their graduate level critical thinking through literacy.

   c. **Assessment:** How will students demonstrate that they have achieved the learning outcomes of the course?

      d. Paper 1 20% - Due Week 4
      e. Paper 2 20% - Due Week 7

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Office of Graduate Studies
f. Paper 3 20% - Due Week 10

g. Final 25%

h. Class Participation 15%

7. Proposed texts and supplementary readings (including ISBNs):


Library resources for this course: Please consult with a member of the Library faculty before completing the following sections of this question. Please provide the name of the Librarian consulted below.

8. Identify and assess the adequacy of available library resources

   a. Databases
   Sufficient.

   b. Books, Journals and eJournals
   Sufficient.

9. Identify recommended additional library resources

10. Estimate the cost of recommended additional library resources (For new courses and programs):

11. Please list any specific bibliographic indices/databases to which students will be directed for this course. (Please check the list of databases licensed by the library before answering this question).

12. Are current College resources (e.g. Computer labs, facilities, equipment) adequate to support this course?
   Yes __X________ No ______________
   If no, what resources will be needed? With whom have these resource needs been discussed?

13. Proposed instructors: Maria (Maki) Haberfeld, William Fraher

14. Other resources needed to offer this course:

15. If the subject matter of the proposed course may conflict with existing or proposed courses in other programs, indicate action taken:
   No.
16. Syllabus

Attach a sample syllabus for this course, which should be based on the College’s model syllabus, found at: [OGS curriculum website]

The syllabus should include grading schemas and course policies. A class calendar with the following elements: a week-by-week listing of topics, readings with page numbers and all other assignments must be included. If this course has been taught on an experimental basis, an actual syllabus may be attached.
Police Leadership CRJ 810  
John Jay College of Criminal Justice - City University of New York  
NYPD Leadership Program

Dr. Maria (Maki) Haberfeld – Academic Coordinator  
Dept. of Law and Police Science, Room 422T  
Office phone number: (212) - 237-8381  
e-mail: mhaberfeld@jjay.cuny.edu

Faculty:  
William Fraher, Dept. of Law and Police Science  
Tel. (W) 973.321-1150  
(C) 973.418.3377  
(H) 201.797.9520  
e-mail: wfraher@jjay.cuny.edu  
wfraher@mac.com

COURSE DESCRIPTION:

This course explores and develops a conceptual framework for modern police leadership. The focus of the course will be on the complexity of leadership in law enforcement from the perspective of the individuals in their roles as leaders, peers, and followers, in the context of different social and organizational groups. Concepts discussed and analyzed may include: organizational culture, individual development, the dimensions and dynamics of police groups and subsystems, communication and counseling skills, ethical considerations, and adaptation processes in a changing society.

Police leaders will face changing global realities, such as terrorism, globalization and increases numbers of migrants and refugees. Police managers and supervisors must change and adapt their leadership styles to meet these new challenges in leading a culturally diverse society and workforce. Safety and security concerns will intersect with the more traditional mission of police force. Cooperation across jurisdictional lines will require leaders to develop the organizational culture in their agencies that will support these requirements.

LEARNING OBJECTIVES:

1. Explain and analyze various formal concepts of leadership.  
2. Explain and analyze various challenges facing the leadership of contemporary police organizations.  
3. Develop a tool kit for leaders to apply in any given situation that includes considerations of diversity in the organization and the community.  
4. Demonstrate graduate level writing in essays.

Rev. Spring 2014  
Office of Graduate Studies
REQUIRED TEXTS:


Additional reading materials will be distributed in class.

Methods of Evaluation

<table>
<thead>
<tr>
<th>Paper 1</th>
<th>20% - Due Week 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper 2</td>
<td>20% - Due Week 7</td>
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<tr>
<td>Paper 3</td>
<td>20% - Due Week 10</td>
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<td>Class Participation</td>
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Course Calendar

Week 1: Introduction and Class Overview
An introduction to the study of leadership in police organizations

Week 2: Organizational Culture and Change: A framework for understanding leadership in an organizational context. The Pentagon of Police Leadership

Week 3: Integrity, Ethics and Police Leadership

Week 4: Team Leadership and Group Theories

Week 5: Leader Member Exchange Theory

Week 6: Transformational and Transactual Leadership Theories

Week 7: Style Theory

Week 8: Situational Theory

Week 9: Contingency Theory

Week 10: Path Goal Theory

Week 11: Skills Approach and Trait Theory
Week 12: Psychodynamic Approach to Leadership

Week 13: Decision Making
   Readings – Decisionmaking Handout

Week 14: Pulling it all together

Week 15: Final Exam

Changes in the syllabus may be made in accordance with class progress. Such changes will be announced as early as is practicable and it is the student’s responsibility to learn of such changes and prepare accordingly.

NOTE:

1. You are required to read the relevant chapters in advance of class. Our lectures will build upon the information contained in the readings, and will be supplemented by additional sources. We therefore assume that your pre-class preparation will cause you to bring a level of comprehension to each class.

2. All students must know and follow the College’s Policy on Plagiarism:

   Plagiarism is the presentation of someone else’s ideas, words, or artistic, scientific, or technical work as one’s own creation. Using the ideas or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source.

   Plagiarism may be intentional or unintentional. Lack of dishonest intent does not absolve a student of responsibility for plagiarism.

   It is the student’s responsibility to recognize the difference between statements that are common knowledge (which do not require documentation) and restatements of the ideas of others. Paraphrase, summary, and direct quotation are acceptable forms of restatement, as long as the source is cited.

   Students who are unsure how and when to provide documentation are advised to consult with their instructors. The Library has free guides designed to help students with problems of documentation.

3. Students will be expected to attend all classes, on time, and to remain for the duration of the class. If you cannot commit yourself to staying in class for its duration, you should not take our course.

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Office of Graduate Studies
Leaving the class during our lectures is not only disruptive to us but also to your fellow students, and impedes a serious academic exchange of ideas. If there is an emergency, of course you may leave. However, having to make a phone call or purchase a drink does not constitute an emergency. Your participation and input in class discussion will influence your final grade. We are tolerant people, and, as is true of most rules, exceptions can and will be made. However, do not take it upon yourself to decide what they are. See us to explain an absence. Bear in mind that we shall not tolerate chronic absences from class lectures. More than two absences will lead to a lower grade, usually an A will become and A-, etc. After six absences you will be given a grade of “WU”.

Knowledge is gained not only by reading text books and preparing for examinations, but also by interacting with your instructors and your fellow students.

4. Friends and family members are not permitted to attend classes. Only students who are properly registered for the course may attend.

5. Make an appointment to see us if anything in class irritates or upsets you and is unsuitable for resolution in class.
**CHANGE IN EXISTING GRADUATE COURSE**

This form should be used for revisions to course titles, prefixes/numbers, descriptions, and/or prerequisites. **For small course content changes please also submit a syllabus.** For significant content changes, a New Course Proposal form may be required instead. Please email the completed form to the Associate Dean of Graduate Studies at rmeeks@jjay.cuny.edu.

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2. **Proposed changes.** Please complete the entire “FROM” column. Only complete the proposed changes in the “TO” column.

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<tr>
<th>FROM (strike through the changes)</th>
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<tr>
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<td><strong>Course</strong></td>
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<tr>
<td>CRJ MA</td>
<td>CRJ 703: Critical Issues in Punishment</td>
</tr>
<tr>
<td><strong>Course</strong></td>
<td>CRJ 703: Advanced Penology</td>
</tr>
<tr>
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<td>CRJ 703: Critical Issues in Punishment</td>
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<td><strong>Pre- and/or Corequisites</strong></td>
</tr>
<tr>
<td>(specify which are pre, co, or both)</td>
<td>(specify which are pre, co, or both)</td>
</tr>
<tr>
<td>An undergraduate course in both criminology and penology, or permission of the instructor.</td>
<td>Pre- and/or Corequisites (specify which are pre, co, or both)</td>
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<td><strong>Credits</strong></td>
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<td>3</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
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<tr>
<td>Looks at the development of ideologies pertaining to the punishment of offenders. Explores the rationales for imprisonment, including deterrence, retribution, incapacitation and rehabilitation. Delves into alternatives to incarceration and evaluates recommendations for penal reform.</td>
<td>Effective Term</td>
</tr>
<tr>
<td><strong>Effective Term</strong></td>
<td>Spring 2017</td>
</tr>
</tbody>
</table>

3. **Rationale for the proposed change(s):** This change in course name is intended to make the topic clearer for students.

4. **Does this change affect other programs?**

   X No  

---

Rev. Spring 2014  
Office of Graduate Studies
CHANGE IN EXISTING GRADUATE COURSE

This form should be used for revisions to course titles, prefixes/numbers, descriptions, and/or prerequisites. For small course content changes please also submit a syllabus. For significant content changes, a New Course Proposal form may be required instead. Please email the completed form to the Associate Dean of Graduate Studies at rmeeks@jjay.cuny.edu.

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<tr>
<td>CRJ MA</td>
<td>CRJ 716: Statistical Software in Criminal Justice</td>
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<tr>
<td><strong>Course</strong></td>
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<td>CRJ 716: Statistical Software in Criminal Justice</td>
</tr>
<tr>
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</tr>
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</tr>
<tr>
<td>CRJ 715 or ICJ 715</td>
<td>CRJ 715 or ICJ 715</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
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<td>3 credits</td>
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<tr>
<td><strong>Credits</strong></td>
<td><strong>Credits</strong></td>
</tr>
<tr>
<td>3 credits</td>
<td>3 credits</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Introduces the use of software programs to search for relationships and patterns in data sets, and to calculate the statistics needed to draw interpretations and conclusions in research reports.</td>
<td></td>
</tr>
<tr>
<td><strong>Effective Term</strong></td>
<td><strong>Effective Term</strong></td>
</tr>
<tr>
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</tr>
</tbody>
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3. Rationale for the proposed change(s): This change in course name is intended to make the topic clearer for students.

4. Does this change affect other programs?  

   ___ X ___ No   _____ Yes

Rev. Spring 2014  
Office of Graduate Studies
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</thead>
<tbody>
<tr>
<td>Program: CRJ MA</td>
<td>Program: CRJ 728: Critical Issues in Corrections</td>
</tr>
<tr>
<td>Course: CRJ 728: Problems in Contemporary Corrections</td>
<td>Course: CRJ 728: Critical Issues in Corrections</td>
</tr>
<tr>
<td>Pre- and/or Corequisites (specify which are pre, co, or both) None</td>
<td>Pre- and/or Corequisites (specify which are pre, co, or both)</td>
</tr>
<tr>
<td>Hours 3</td>
<td>Hours</td>
</tr>
<tr>
<td>Credits 3</td>
<td>Credits</td>
</tr>
<tr>
<td>Description:</td>
<td>Description</td>
</tr>
<tr>
<td>Analyzes selected problems currently confronting corrections professionals in both institutional and community settings. Considers issues such as overcrowding, excessive costs, ineffective programs, corruption, brutality, escapes, inmate violence and uprisings, and correction officer professionalism.</td>
<td>Description</td>
</tr>
<tr>
<td>Effective Term:</td>
<td>Spring 2017</td>
</tr>
</tbody>
</table>

3. Rationale for the proposed change(s): This change in course name is intended to make the topic clearer for students.

4. Does this change affect other programs?
____X____ No    _____ Yes

If yes, what consultation has taken place?
CHANGE IN EXISTING GRADUATE COURSE

This form should be used for revisions to course titles, prefixes/numbers, descriptions, and/or prerequisites. For small course content changes please also submit a syllabus. For significant content changes, a New Course Proposal form may be required instead. Please email the completed form to the Associate Dean of Graduate Studies at rmeeks@jjay.cuny.edu.

Date Submitted to the Office of Graduate Studies:  
Date of Program Approval: April 18, 2016  
Date of CGS Approval: 5/4/16

1. Contact information of proposer(s):

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Email(s)</th>
<th>Phone number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avram Bornstein</td>
<td><a href="mailto:abornstein@jjay.cuny.edu">abornstein@jjay.cuny.edu</a></td>
<td>X8287</td>
</tr>
</tbody>
</table>

2. Proposed changes. Please complete the entire “FROM” column. Only complete the proposed changes in the “TO” column.

<table>
<thead>
<tr>
<th>FROM (strike through the changes)</th>
<th>TO (underline changes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Program</td>
</tr>
<tr>
<td>CRJ MA</td>
<td>CRJ 749: Ethics of Punishment</td>
</tr>
<tr>
<td>Course</td>
<td>CRJ 749: Punishment and Responsibility</td>
</tr>
<tr>
<td>Pre- and/or Corequisites (specify which are pre, co, or both)</td>
<td>Pre- and/or Corequisites (specify which are pre, co, or both)</td>
</tr>
<tr>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Hours</td>
<td>Hours</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Credits</td>
<td>Credits</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Description</td>
</tr>
<tr>
<td>Concentrates on questions of personal blame and individual, moral and legal accountability. Reviews the implications for criminal and civil liability of key concepts such as free will, voluntary action, omission, negligence, recklessness, compulsion, insanity and excuse. Seeks guidance from penal and civil codes, judicial decisions, legal doctrines and philosophical perspectives.</td>
<td>Effective Term Spring 2017</td>
</tr>
</tbody>
</table>

3. Rationale for the proposed change(s): This change in course name is intended to make the topic clearer for students.
4. Does this change affect other programs?

____X____ No  ______ Yes

If yes, what consultation has taken place?
### CHANGE IN EXISTING GRADUATE COURSE

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---

**Date Submitted to the Office of Graduate Studies:**
- **Date of Program Approval:** April 18, 2016
- **Date of CGS Approval:** 5/4/16

1. **Contact information of proposer(s):**

<table>
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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Program</strong></td>
<td><strong>Program</strong></td>
</tr>
<tr>
<td>CRJ MA</td>
<td>CRJ 756: Critical Issues in Policing</td>
</tr>
<tr>
<td><strong>Course</strong></td>
<td><strong>Course</strong></td>
</tr>
<tr>
<td>CRJ 756: Problems in Police Administration</td>
<td>CRJ 756: Critical Issues in Policing</td>
</tr>
<tr>
<td><strong>Pre- and/or Corequisites</strong> (specify which are pre, co, or both)</td>
<td><strong>Pre- and/or Corequisites</strong> (specify which are pre, co, or both)</td>
</tr>
<tr>
<td>None</td>
<td></td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td><strong>Hours</strong></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Credits</strong></td>
<td><strong>Credits</strong></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Considers the major issues confronting administrators of large urban police departments, such as professionalism, recruitment, selection, training, deployment, innovation, evaluation, and charges of brutality, inefficiency and corruption.</td>
<td>Effective Term</td>
</tr>
<tr>
<td>Spring 2017</td>
<td></td>
</tr>
</tbody>
</table>

3. **Rationale for the proposed change(s):** This change in course name is intended to make the topic clearer for students.

4. **Does this change affect other programs?**

   - X No
   - Yes

---

Rev. Spring 2014
Office of Graduate Studies
CHANGE IN EXISTING GRADUATE COURSE

This form should be used for revisions to course titles, prefixes/numbers, descriptions, and/or prerequisites. For small course content changes please also submit a syllabus. For significant content changes, a New Course Proposal form may be required instead. Please email the completed form to the Associate Dean of Graduate Studies at rmeeks@jjay.cuny.edu.

Date Submitted to the Office of Graduate Studies:  
Date of Program Approval: April 18, 2016  
Date of CGS Approval: 5/4/16

1. Contact information of proposer(s):

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</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Program</td>
</tr>
<tr>
<td>CRJ MA</td>
<td>CRJ 771: Special Topics in Criminal Justice</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>CRJ 771: Problems in Criminal Justice</td>
<td>CRJ 771: Special Topics in Criminal Justice</td>
</tr>
<tr>
<td>Pre- and/or Corequisites (specify which are pre, co, or both)</td>
<td>Pre- and/or Corequisites (specify which are pre, co, or both)</td>
</tr>
<tr>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Hours</td>
<td>Hours</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Credits</td>
<td>Credits</td>
</tr>
<tr>
<td>3 credits</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Description</td>
</tr>
<tr>
<td>none in bulletin</td>
<td>This course focuses on critical, contemporary issues in criminal justice and may encompass topics related to law, law enforcement, courts, or corrections, as determined by the instructor.</td>
</tr>
<tr>
<td>Effective Term</td>
<td>Effective Term</td>
</tr>
<tr>
<td></td>
<td>Spring 2017</td>
</tr>
</tbody>
</table>

3. Rationale for the proposed change(s): This change in course name is intended to make the topic clearer for students.

4. Does this change affect other programs?  
   ___X___ No     ____ Yes  

Rev. Spring 2014  
Office of Graduate Studies
## CHANGE IN EXISTING GRADUATE COURSE

This form should be used for revisions to course titles, prefixes/numbers, descriptions, and/or prerequisites. **For small course content changes please also submit a syllabus.** For significant content changes, a New Course Proposal form may be required instead. Please email the completed form to the Associate Dean of Graduate Studies at rmeeks@jjay.cuny.edu.

Date Submitted to the Office of Graduate Studies:  
Date of Program Approval: May 2, 2016  
Date of CGS Approval: 5/4/16

### 1. Contact information of proposer(s):

<table>
<thead>
<tr>
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<td>X8287</td>
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</table>

### 2. Proposed changes. Please complete the entire “FROM” column. Only complete the proposed changes in the “TO” column.

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<thead>
<tr>
<th>FROM (strike through the changes)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Program</td>
</tr>
<tr>
<td>CRJ MA</td>
<td>CRJ 793: Comprehensive Exam Review</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>CRJ 793: Comprehensive Exam Review</td>
<td>Pre- and/or Corequisites</td>
</tr>
<tr>
<td>Hours</td>
<td>Hours</td>
</tr>
<tr>
<td>3 credits</td>
<td>Credits</td>
</tr>
<tr>
<td>Grading method</td>
<td>Grading method</td>
</tr>
<tr>
<td>A–F</td>
<td>P/F</td>
</tr>
<tr>
<td>Description</td>
<td>Effective Term</td>
</tr>
</tbody>
</table>

### 3. Rationale for the proposed change(s): Students expressed a fear of enrolling in CRJ 793 because the grade comes from on high stakes exam—the Comp Exam—which could lower their GPA even if they passed. Students who do not take CRJ 793, but take the Comp Exam receive only a P or F on their transcript. To encourage enrollment and remove the difference in impact on student GPAs, all students should receive a P/INC grade in CRJ 793 until their third try when they would receive P/F.

### 4. Does this change affect other programs?  

X No  Yes
JOHN JAY COLLEGE OF CRIMINAL JUSTICE
The City University of New York

CHANGE IN EXISTING GRADUATE COURSE

This form should be used for revisions to course titles, prefixes/numbers, descriptions, and/or prerequisites. **For small course content changes please also submit a syllabus.** For significant content changes, a New Course Proposal form may be required instead. Please email the completed form to the Associate Dean of Graduate Studies at rmeeks@jjay.cuny.edu.

Date Submitted to the Office of Graduate Studies:
Date of Program approval: 4/19/2016
Date of CGS approval: 5/4/16

1. **Contact information of proposer(s):**

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Email(s)</th>
<th>Phone number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechthild Prinz</td>
<td><a href="mailto:mprinz@jjay.cuny.edu">mprinz@jjay.cuny.edu</a></td>
<td>212-621-3751</td>
</tr>
</tbody>
</table>

2. **Proposed changes.** Please complete the entire “FROM” column. Only complete the proposed changes in the “TO” column.

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<thead>
<tr>
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<th>TO (underline changes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program</strong></td>
<td><strong>Course</strong></td>
</tr>
<tr>
<td>Science</td>
<td>Principles of Forensic Toxicology FOS 707</td>
</tr>
<tr>
<td><strong>Course</strong></td>
<td>Fundamentals of Forensic Toxicology FOS 707</td>
</tr>
<tr>
<td><strong>Pre- and/or Corequisites</strong></td>
<td>Coursework necessary for admission to Master of Science in Forensic Science Program.</td>
</tr>
<tr>
<td>(specify which are pre, co, or both)</td>
<td>Pre- and/or Corequisites (specify which are pre, co, or both)</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td>30 HOURS LECTURE PLUS CONFERENCES</td>
</tr>
<tr>
<td><strong>Credits</strong></td>
<td>3 CREDITS</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>OFFERED FALL OR SPRING SEMESTER</td>
</tr>
<tr>
<td>This course serves as an introduction to the basic principles of forensic toxicology. This course emphasizes the common drugs/poisons that are encountered by a practicing forensic toxicologist and the approach to determining their medicolegal role in establishing the cause of death and disease. Topics include the pharmacology and pharmacokinetics of drugs, impairment versus intoxication, and the</td>
<td>This course will cover fundamental principles of forensic toxicology. This course emphasizes the common drugs/poisons that are encountered by a practicing forensic toxicologist and the approach to determining their medicolegal role in establishing the cause of death and disease. Topics include the pharmacology and pharmacokinetics of drugs, impairment versus intoxication, and the</td>
</tr>
</tbody>
</table>
and the interpretation of drug effect in the criminal court setting. The science of ethanol and drugs of abuse, along with other important agents (sports doping drugs, therapeutic drugs, CO etc.), will be discussed as they relate to toxicology. An introduction to the basic applied methods of forensic toxicology is also presented, including biological samples, analytical schemes, and some of the special problems commonly encountered in forensic toxicology.

Lectures, directed readings, and participatory discussions will introduce the science of forensic toxicology.

| Interpretation of drug effect in the criminal court setting. The science of ethanol and drugs of abuse, along with other important agents (sports doping drugs, therapeutic drugs, CO etc.), will be discussed as they relate to toxicology. An introduction to the basic applied methods of forensic toxicology is also presented, including biological samples, analytical schemes, and some of the special problems commonly encountered in forensic toxicology. Lectures, directed readings, and participatory discussions will introduce the science of forensic toxicology. |
| Effective Term | Spring 2017 |

3. Rationale for the proposed change(s):

The science department is working on a Toxicology major and will offer an undergraduate class also called “Principles of Forensic Toxicology” as part of this major. This course and the curriculum for the major were approved by UCASC on April 15th, 2016. While the undergraduate class will have the course prefix TOX336 and there should be no mistaking one class for the other, we would still like to change the name for the graduate class to avoid any type of misunderstanding when referring to either class.

4. Does this change affect other programs?

__X___ No  ______ Yes

If yes, what consultation has taken place?
Resolution to Change Minimum Requirements for Full-Time Status for students in the D4CS MS and MPA Programs

Date of CGS Approval: 5/4/16

RESOLVED, that a program load of three graduate-level courses (9 credits) is considered the minimum full-time graduate course load for John Jay students in the Master of Science in Digital Forensics and Cybersecurity program and the Master of Public Administration programs, effective the Spring 2017 semester. This provision does not affect the college's definition of full-time for tuition purposes.

Rationale.

CUNY is an outlier among graduate schools in defining full time status as 12 hours. The experience of D4CS over the years strongly suggests that a 12 hour load severely diminishes the chances for students to engage in extra-course professional and academic development, even to seriously look for a job. Thus, we have long recommended that a course load of nine hours or three courses. We seek to make this informal academic advice a formal provision. This will facilitate some students who need to be full-time in order to qualify for some forms of financial aid. It will especially apply to D4CS and MPA students who are veterans as they will be eligible to receive full GI Bill benefits with a nine hour load, which is the case at nearly all other graduate schools. The change would have negligible effect on students as they would retain the option to carry 12 hours if they wish. The only tangible benefit to students with the 12 hour definition is a $35 savings for full-time tuition versus paying per credit for 12 hours.

This change follows CUNY practice and precedent at least at Baruch, CSI, and City College. At CSI, the online catalog has the following statement on its Academic Procedures and Policies page which applies to all CSI graduate programs:

**Full-Time Classification**

Graduate students are classified as full-time if they are taking nine or more credits.

At Baruch there are several programs that follow this definition, as reflected by the following resolution in 2009 from Baruch College which was approved by CUNY Central and is now in effect. The resolution as passed appears on the Baruch website here:

https://www.baruch.cuny.edu/wsas/academics/Studentstatus.htm

**AI:10.1a. Change in Credit Requirements for Graduate Full-Time Status**

RESOLVED, that a program load of three 9000-level courses (9 credits) is considered the minimum full-time graduate course load for the following Weissman School of Arts and Sciences programs: MA in Corporate Communication; MS in Applied Mathematics for Finance; and MS in Industrial and Organizational Psychology, effective the Fall 2009 semester.

**Rationale:** This change is being done to bring the Weissman graduate programs in line with standard practices within CUNY and nationwide.

The effected change appears in the current Baruch graduate catalog under General Academic Regulations:

A program load of three 9000-level courses (9 credits) is considered the minimum full-time
graduate course load for the following Weissman School of Arts and Sciences programs: MA in Corporate Communication; MS in Financial Engineering; and MS in Industrial and Organizational Psychology. A program load of nine (9) credits is considered the minimum full-time graduate course load for Zicklin School of Business MBA and MS students. (https://www.baruch.cuny.edu/confluence/display/graduatebulletin/General+Academic+Regulations)
Updated 2015-2016 College Council Committee Activity Report

<table>
<thead>
<tr>
<th>Committee</th>
<th>Agendas</th>
<th>Minutes</th>
<th>Attendance Lists</th>
<th>No. Scheduled Meetings</th>
<th>Meetings Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Personnel Committee</td>
<td>Y</td>
<td>Y†</td>
<td>Y</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>College Council</td>
<td>Y</td>
<td>Y†</td>
<td>Y</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Graduate Studies</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Honors, Prizes and Awards</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Student Evaluation on the Faculty</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Council of Undergraduate Program Coordinators</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Committee on Student Interest</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Undergraduate Curriculum and Academic Standards Committee</td>
<td>Y</td>
<td>Y†</td>
<td>Y</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Faculty-Student Disciplinary Committee (formally Judicial Committee)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Budget and Planning Committee</td>
<td>Y</td>
<td>Y†</td>
<td>Y</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Executive Committee of the College Council</td>
<td>Y</td>
<td>Y†</td>
<td>Y</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>College Wide Assessment Committee</td>
<td>Y</td>
<td>Y†</td>
<td>Y</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Joint meetings of the Financial Planning Subcommittee of the Budget and Planning Committee and the Strategic Planning Subcommittee of the Budget &amp; Planning</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

†May minutes have not yet been approved, therefore not submitted.

Submitted Proposals and Reports for Academic Year 2015-2016

<table>
<thead>
<tr>
<th>Committee</th>
<th>Number of Proposals/Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Curriculum and Academic Standards</td>
<td>101</td>
</tr>
<tr>
<td>Graduate Studies</td>
<td>24</td>
</tr>
<tr>
<td>Faculty Senate</td>
<td>2</td>
</tr>
<tr>
<td>Executive Committee of the College Council</td>
<td>5</td>
</tr>
<tr>
<td>Ad Hoc Committee for Strategic Plan</td>
<td>1</td>
</tr>
<tr>
<td>Honors, Prizes and Awards Committee</td>
<td>1</td>
</tr>
<tr>
<td>Enrollment Management</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>135</td>
</tr>
</tbody>
</table>

135 proposals and reports were put on the College Council agenda for consideration in academic year 2015-2016.
John Jay College of Criminal Justice  
The City University of New York  

College Council Calendar 2016-2017

<table>
<thead>
<tr>
<th>Items Due</th>
<th>Executive Committee</th>
<th>College Council Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, August 22, 2016</td>
<td>Thursday, September 1, 2016</td>
<td>Tuesday, September 20, 2016</td>
</tr>
<tr>
<td>Monday, September 26, 2016</td>
<td>Wednesday, October 5, 2016</td>
<td>Thursday, October 20, 2016</td>
</tr>
<tr>
<td>Tuesday, October 25, 2016</td>
<td>Thursday, November 3, 2016</td>
<td>Monday, November 14, 2016</td>
</tr>
<tr>
<td>Thursday, November 17, 2016</td>
<td>Monday, November 28, 2016</td>
<td>Tuesday, December 6, 2016</td>
</tr>
<tr>
<td>Thursday, January 19, 2017</td>
<td>Thursday, February 2, 2017</td>
<td>Wednesday, February 22, 2017</td>
</tr>
<tr>
<td>Friday, March 24, 2017</td>
<td>Tuesday, April 4, 2017</td>
<td>Tuesday, April 25, 2017</td>
</tr>
<tr>
<td>Wednesday, April 26, 2017</td>
<td>Wednesday, May 3, 2017</td>
<td>Monday, May 15, 2017</td>
</tr>
</tbody>
</table>

All meetings begin at 1:40 p.m. and are open to the College Community. All meetings will take place in Room 9.64NB.

**Additional meetings if needed**

<table>
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<tr>
<th>Items Due</th>
<th>Executive Committee</th>
<th>College Council Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, November 21, 2016</td>
<td>Wednesday, December 7, 2016</td>
<td>Thursday, December 8, 2016</td>
</tr>
<tr>
<td>Thursday, April 27, 2017</td>
<td>Tuesday, May 16, 2017</td>
<td>Wednesday, May 17, 2017</td>
</tr>
</tbody>
</table>