

2016-2017

**program
requirements**

GENERAL EDUCATION FOR ALL DEGREE PROGRAMS

Kingsborough's mission statement begins with the following two goals:

1. to offer an excellent general education to all degree students
2. to develop students' competence in written and oral communication, quantitative skills, critical thinking, research, and technological literacy

The first goal is addressed in these statements of outcomes:

- Students will choose from a wide range of liberal arts and sciences courses in order to develop the knowledge, skills, and appreciation of disciplines beyond their majors
- Students will increase their knowledge of self and of their physical, social, and cultural environment

The second goal is addressed in these statements of outcomes:

- Students will demonstrate mastery of quantitative skills
- Students will demonstrate their problem solving skills through their ability to analyze, compare, and evaluate ideas
- Students will demonstrate effective oral and written communication
- Students will use technology to acquire and manage knowledge

Readiness for Academic Success

The City University of New York assesses college readiness by CUNY-wide reading, writing and mathematics placement tests. A passing score in reading and writing are required for credit English courses and may be required for selected courses offered by other Departments. The passing score for credit mathematics courses depends on the level of mathematical skills and knowledge required for a particular course. A passing score in all three tests is required (pre-requisite) for almost all laboratory science courses.

Developmental English and mathematics courses and workshops are required for matriculants who have not passed the respective CUNY placement test. The specific developmental courses students will be required to take are determined by the relevant CUNY placement score.

CUNY PATHWAYS INITIATIVE

Approved by the CUNY Board of Trustees in June 2011, the Pathways Initiative, which goes into effect September 2013, will assure that all three parts of an undergraduate curriculum – general education, major, and elective courses – will count toward graduation requirements among all CUNY colleges. This new initiative allows students to experience a broad range of liberal arts courses while assuring the many students who transfer from one CUNY college to another that their credits will transfer, therefore helping them graduate on time.

Pathways will apply to:

- new freshmen
- transfer students starting in September 2013

Students changing majors should meet with their advisors to see how liberal arts credits already earned apply to the new CUNY Common Core.

Current students who continue in the same major can choose to stay with the requirements in place when they entered CUNY, as listed in the college catalog for their start date, or to opt into the new Pathways curriculum.

All CUNY undergraduates will be required to complete the 30-credit CUNY Common Core except students in Associate in Applied Science Programs.

Pathways Components

CUNY's Pathways initiative offers a new framework for general education. It consists of two parts: (1) the Common Core for all CUNY colleges, requiring 30 general education credits and (2) the College Option, requiring students who transfer to a four-year CUNY college to take six (6) to 12 additional credits at the four-year college, as specified by the student's status when they enter the four-year CUNY College.

CUNY Common Core at Kingsborough

The new CUNY Common Core consists of two parts: a "**Required Core**" portion and a "**Flexible Core**" portion. Courses that have been approved for the CUNY Common Core at the time of publication of this catalog are identified in the Course Descriptions Section of this catalog.

NOTE: Students **must** take all required courses listed for each major. It is highly recommended that the specified courses be taken to satisfy the Required Core or Flexible Core to minimize the number of credits needed to complete the degree.

Required Core

In the Required Core, depending on the major, students must take:

- Six (6) credits in **English Composition I and II** (ENG 1200 and ENG 2400)
- Three (3) credits in Life and Physical Sciences
- Three (3) credits in Mathematical and Quantitative Reasoning

Flexible Core

Depending on the major, students take between three (3) and six (6) three-credit liberal arts and sciences courses from the following five (5) areas, with no more than two (2) courses in any discipline or interdisciplinary field (e.g., no more than two psychology courses).

- A. World Cultures and Global Issues
- B. U.S. Experience in its Diversity
- C. Creative Expression
- D. Individual and Society
- E. Scientific World

Pathways Approved Courses

REQUIRED CORE

Life and Physical Sciences

BIO 100, BIO 1100, BIO 1200, BIO 1300, BIO 1400, BIO 3300, CHM 1100, CHM 1200, EPS 3100, EPS 3200, EPS 3300, EPS 3500, EPS 3600, EPS 3800, PHY 1300, PHY 1400 SCI 3700, SCI 5100, SCI 7000

Mathematical and Quantitative Reasoning

MAT 4A0, MAT 700, MAT 900, MAT 1400, MAT 1500, MAT 1600, MAT 2000, BA/MAT 2200, BIO/MAT 9100

FLEXIBLE CORE

Group A: World Cultures and Global Issues

ANT 3700, ANT 3800, ARB 100, ARB 200, ART 3000, ART 3300, ART 3400, ART 3700, ART 5000, CHI 200, ENG 3200, FR 100, FR 200, FR 5700, HEB 100, HEB 200, HEB 300, HIS 3100, HIS 3600, HIS 4400, HIS 5100, HIS 5200, HIS 5300, HIS 7000, HS 4100, IT 100, IT 200, MUS 2700, PHI 7000, PHI 7700, PHI 7800, PHI 7900, POL 5200, POL 7500, POL 9300, SOC 3900, SPA 100, SPA 200, SPA 300, SPA 400, SPA 1800, SPA 3400, SPE 2600, THA 6800

Group B: U.S. Experience in Its Diversity

ART 4700, ENG 4800, HIS 100, HIS 1100, HIS 1200, HIS 1700, HIS 1800, HIS 2000, HIS 2100, HIS 5000, HIS 5900, HIS 6200, HIS 6800, POL 5100, POL 5400, POL 5500, SOC 3200, SOC 3600, THA 6700

Group C: Creative Expression

ART 3100, ART 3500, ART 3600, ART 3800, ART 3900, ART 9500, ART 9800, ENG 3000, ENG 4000, ENG 4200, ENG 4300, ENG 6500, HEB 3000, HEB 3100, HUM 100, MCF 4000, MCF 4300, MUS 2100, MUS 2200, MUS 2400, MUS 3000, MUS 3100, PHI 7500, SPA 3100, SPA 5500, SPE 1000, SPE 1100, SPE 2100, SPE 2700, THA 5000, THA 5100, YD 3000

Group D: Individual and Society

ANT 3900, ECO 1200, ECO 1300, HS 4000, HS 5200, MCM 3000, MCF 4400, PHI 7100, PHI 7200, PHI 7400, PHI 7600, POL 5000, PSY 3200, PSY 3000, PSY 3300, PSY 3600, PSY 3700, SOC 3100, SOC 3300, SOC 3500, SOC 3800, SPE 1200, SPE 2500

Group E: Scientific World

BA/MAT 2200, BIO 1100, BIO 1200, BIO 1300, BIO 1400, BIO 2800, BIO 3700, BIO 3900, BIO 4900, BIO 7000, BIO/MAT 9100, CHM 1100, CHM 1200, CP 1000, CP 1100, CS 1200, CS 13A0, EPS 3100, EPS 3200, EPS 3300, EPS 3500, EPS 3600, EPS 3800, MAT 900, MAT 1400, MAT 1500, MAT 1600, PHI 7300, PSY 1100, PHY 1300, PHY 1400, SCI 100

2016-2017

associate in arts

THE ASSOCIATE IN ARTS (A.A.) DEGREE

Students in the Liberal Arts program are exposed to the humanities, social sciences, science, and mathematics. The objectives are similar to the prescribed courses frequently found in the first two years of baccalaureate liberal arts programs. Students who plan to continue their studies and earn higher degrees, find that their Kingsborough Associate in Arts degree serves as a solid foundation for transfer to a four-year or professional college. Provisions for smooth transfer between Kingsborough and CUNY, SUNY and many private colleges are in effect.

The A.A. in Criminal Justice is a joint program with CUNY's John Jay College of Criminal Justice.

After applying for graduation a student must earn at least a "C" (2.00) cumulative grade point average and have fulfilled all degree requirements to be certified for the degree.

A.A. CRIMINAL JUSTICE

ACADEMIC DEPARTMENT: History, Philosophy and Political Science

HEGIS: 2105.00

PROGRAM CODE: 32563

CHAIRPERSON: Dr. Michael Barnhart

PROGRAM DIRECTOR: Dr. Christopher Chapman

OFFICE LOCATION: D-309

TELEPHONE: (718) 368-5417

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Criminal Justice degree program requirements, graduates will:

1. demonstrate effective communication skills
 2. demonstrate basic knowledge of criminal law and the rights of individual citizens
 3. describe the procedures involved in criminal investigations
 4. demonstrate critical thinking skills within the context of evaluating the complexity of criminal justice issues
 5. describe the role of the criminal justice officer in the community, and the organization and administration of the various entities in the criminal justice system
 6. identify the procedures involved in criminal investigations
 7. explain the ethical responsibilities of criminal justice professionals
 8. recognize the application of physical and biological sciences to criminal justice
 9. explain victimization, including who victims are, the effects of victimization on victims and society, the rights of victims, and processes for including victims in the criminal justice system
 10. explain the correctional process
 11. explain the theory, structure and function of the juvenile system
 12. recognize social and political trends within society that influence areas of criminal justice including an understanding of the processes by which laws are made, enacted, and changed
 13. describe the basic theories that form the foundation of the criminal justice discipline and the historical developments of the criminal justice system in the United States
 14. explain the theory and structure of the courts
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College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement ~~(1 course, 3 credits):~~

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 12 Credits):

When Required Core Course are specified for a category, they are required for the major

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)*

Life & Physical Sciences Course (3 crs.)*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

Flexible Core (6 Courses, 18 Credits):

When Flexible Core Course are specified for a category, they are required for the major

One course from each Group A, C, and E. (Groups B and D are satisfied by courses shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course

POL 5100 – American Government and Politics (3 crs.)

- C. Creative Expression Designated Course
- D. Individual and Society Designated Course

SOC 3100 – Introduction to Criminal Justice (3 crs.)

- E. Scientific World Designated Course*

PLUS one (1) additional course selected from Group A to E*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

No more than two courses can be selected from the same discipline

Major Requirements (~~9 Courses, 27 Credits~~) (7 Courses, 21 Credits):

~~POL 5100 – American Government and Politics (3 crs.)~~

POL 6300 – Introduction to Criminal Justice (3 crs.)

POL 6400 – Crime and Punishment (3 crs.)

POL 6600 – Constitutional Law (3 crs.)

POL 6700 – The American Legal System: The Courts (3 crs.)

POL 7200 – Minorities and the Criminal Justice System (3 crs.)

CRJ 6900 – Policing (3 crs.)

CRJ 7000 – Corrections and Sentencing (3 crs.)

~~SOC 3100 – Introduction to Criminal Justice (3 crs.)~~

Electives:

9 credits sufficient to meet required total of 60 credits. Recommended: A Computer Applications course

TOTAL CREDITS: 60

2016-2017

associate in science

THE ASSOCIATE IN SCIENCE (A.S.) DEGREE

The courses offered in these programs provide sound foundations in those specialties as well as in the essential liberal arts. They were designed to permit students the opportunity for exploration with specialization in their major field. The Kingsborough Associate in Science degree will serve as a foundation for transfer to a four-year professional college or for accepting a position in the chosen field.

After applying for graduation a student must earn at least a "C" (2.00) cumulative grade point average and have fulfilled all degree requirements to be certified for the degree.

A.S. ACCOUNTING

ACADEMIC DEPARTMENT: Business

HEGIS: 5503.00

PROGRAM CODE: 01045

CHAIRPERSON: Dr. Jeffrey Lax

OFFICE LOCATION: M-355

TELEPHONE: (718) 368-5555

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Accounting degree program requirements, graduates will:

1. explain the meaning of Generally Accepted Accounting Principles (GAAP)
 2. prepare and interpret the following financial statement: statement of stockholder's equity
 3. prepare journal entries
 4. distinguish between financial, managerial and cost accounting
 5. identify current federal income tax laws and regulations
 6. identify the major economic systems and identify the ways to measure economic performance
 7. describe the differences in the major business ownership formats, including e-business
 8. explain how civil law applies to two primary aspects of private enterprise: the laws of contracts and torts
 9. perform tasks using Microsoft office (word, excel, PowerPoint and access)
 10. explain the function of financial markets and financial intermediaries in the economy
 11. explain the concept of time value of money
 12. apply financial information to managerial decision-making
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College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 Course, 3 Credits):

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 12 Credits) (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (4 crs.) – **MAT 2200 – Business Statistics (4 crs.)**

Life & Physical Sciences Course (3 crs.)*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

Flexible Core (6 Courses, 18 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A, B, C, and E. (Group D is satisfied by the courses shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
ECO 1200 – Macroeconomics (3 crs.)
ECO 1300 – Microeconomics (3 crs.)
- E. Scientific World Designated Course*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

No more than two courses can be selected from the same discipline

Major Requirements (~~8 Courses, 26 Credits~~): (9 Courses, 29 or 30 credits):

ACC 1100 – Fundamentals of Accounting I (4 crs.)

ACC 1200 – Fundamentals of Accounting II (4 crs.)

ACC 2100 – Intermediate Accounting I (3 crs.)

ACC 2200 – Intermediate Accounting II (3 crs.)

~~ACC 3100 – Cost Accounting (4 crs.)~~

BA 1100 – Fundamentals of Business (3 crs.)

BA 1200 – Business Law I (3 crs.)

BA 6000 – Introduction to Computer Concepts (3 crs.)

~~ECO 1200 – Macroeconomics (3 crs.)~~

AND

Choose **two (2)** of the following courses:

BA 1300 – Business Law II (3 crs.) **or**

BA 6100 – Spreadsheet Applications in Business (3 crs.) **or**

ECO 1400 – Money and Banking (3 crs.) **or**

ACC 3100 – Cost Accounting (4 crs.)** **or**

ACC 6000 – Microcomputer Accounting Applications (3 crs.)

Electives:

0 credits sufficient to meet required total of 60 credits

Notes:

This is a 4-credit course and will increase your degree requirements to 61 credits. For Financial Aid, TAP will count 3 credits towards your degree requirements. Consultation with a program advisor to address financial aid and academic planning is **highly recommended.

TOTAL CREDITS: 60

A.S. BIOLOGY

ACADEMIC DEPARTMENT: Biological Sciences

HEGIS: 5604.00

PROGRAM CODE: 01039

CHAIRPERSON: Dr. Mary Dawson

OFFICE LOCATION: S-244

TELEPHONE: (718) 368-5502

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Biology degree program requirements, graduates will:

1. identify and apply the methods and process of life science
 2. demonstrate proficiency in quantitative reasoning as it relates to life science data
 3. demonstrate an understanding of evolution
 4. demonstrate an understanding of the relationship between structure and function
 5. demonstrate an understanding of genetics
 6. demonstrate an understanding of the pathways of energy and matter that maintain a particular environment
 7. demonstrate an understanding of the levels of biological organization and the interactions among these levels
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College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement **(1 Course, 3 Credits):**

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 14 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – **MAT 1400 - Analytic Geometry and Pre-Calculus Math (4 crs.)***

Life & Physical Sciences Course – **BIO 1300 – General Biology I (4 crs.)***

~~**BIO 1400 – General Biology II (4 crs.)***~~

~~**CHM 1100 – General Chemistry I (4 crs.)***~~

~~**CHM 1200 – General Chemistry II (4 crs.)***~~

* This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by courses shown)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core*

~~MAT 1400 – Analytic Geometry and Pre-Calculus (4 crs.)* or~~

~~BIO 1300 – General Biology I (4 crs.)* or~~

~~CHM 1200 – General Chemistry II (4 crs.)* or~~

BIO 1400 – General Biology II (4 crs.)*

CHM 1100 – General Chemistry I (4 crs.)*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (6 courses, 23 or 24 Credits) (2 Courses, 7 to 8 Credits):

~~MAT 1400 – Analytic Geometry and Pre-Calculus (4 crs.)~~

~~BIO 1300 – General Biology I (4 crs.)~~

~~BIO 1400 – General Biology II (4 crs.)~~

~~CHM 1100 – General Chemistry I (4 crs.)~~

CHM 1200 - General Chemistry II (4 crs.)

CP 1100 - Introduction to Computers and Computer Applications (4 crs.) or

BIO/CIS 6000 – Computer Applications in Bioinformatics (3 crs.)

Concentrations (2 Courses, 8 Credits):

Select **one (1)** of the following concentrations:

A. Biology Transfer (2 courses, 8 Credits):

Select **two (2)** of the following Biology Laboratory courses:

BIO 2100 - Comparative Anatomy (4 crs.) or

BIO 2200 - Developmental Biology (4 crs.) or

BIO 5000 - General Microbiology (4 crs.) or

BIO 5200 - Marine Biology (4 crs.) or

BIO 5300 - Ecology (4 crs.) or

BIO 5800 - Recombination DNA Technology (4 crs.) or

BIO 5900 – Genetics (4 crs.) or

BIO 6500 - Molecular and Cellular Biology (3 crs.)

OR

B. Allied Health Transfer (2 Courses, 8 Credits):

BIO 1100 - Human Anatomy and Physiology I (4 crs.)

BIO 1200 - Human Anatomy and Physiology II (4 crs.)

Electives:

10 to 11 credits sufficient to meet required total of 60 credits

Allied Health Transfer Option, Suggested Elective:

BIO/MAT 9100 – Biostatistics (4 crs.)

Transfer to a Physician Assistant Program, Suggested Elective:

BIO 5100 – Microbiology in Health and Disease (4 crs.)

TOTAL CREDITS: 60

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by the courses shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core

~~MAT 900 – College Algebra (3 crs.)* or~~

~~BIO/MAT 9100 – Biostatistics (4 crs.)* or~~

~~BIO 1300 – General Biology I (4 crs.)* or~~

~~BIO 1400 – General Biology II (4 crs)* or~~

~~CHM 1100 – General Chemistry I (4 crs.)* or~~

~~CHM 1200 – General Chemistry II (4 crs.)*~~

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (10 Courses, 37 Credits) (6 Courses, 26 Credits):

~~MAT 900 – College Algebra (3 crs.)~~

~~BIO/MAT 9100 – Biostatistics (4 crs.)~~

~~BIO 1300 – General Biology I (4 crs.)~~

~~BIO 1400 – General Biology II (4 crs.)~~

BIO 5000 – General Microbiology (4 crs.) or

BIO 5900 – Genetics (4 crs.)

BIO 5800 – Recombination DNA Technology (4 crs.) or

BIO 5700 – Biotechnology: Cell Culture and Cloning (4 crs.)

BIO 6500 – Molecular and Cell Biology (3 crs.)

CHM 1100 – General Chemistry I (4 crs.)

CHM 1200 – General Chemistry II (4 crs.)

BIO/CIS 6000 – Computer Applications in Bioinformatics (3 crs.)

Electives:

4 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. BUSINESS ADMINISTRATION

ACADEMIC DEPARTMENT: Business

HEGIS: 5004.00

PROGRAM CODE: 01050

CHAIRPERSON: Dr. Jeffrey Lax

OFFICE LOCATION: M-355

TELEPHONE: (718) 368-5555

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Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Business Administration degree program requirements, graduates will:

1. explain the fundamental concepts and techniques to account for business transactions
 2. prepare and interpret financial statements
 3. identify the major economic systems and identify the ways to measure economic performance
 4. explain how civil law applies to two primary aspects of private enterprise: the laws of contracts and torts
 5. explain the interrelationship between productivity and organizational variables
 6. describe the techniques of effective advertising
 7. identify and apply the elements of the marketing mix and their relationship to environmental variables
 8. describe the differences in the major business ownership formats, including e-business
 9. perform tasks using Microsoft office (word, excel, PowerPoint and access)
 10. distinguish between the roles and responsibilities between employers and employees in the workplace
 11. explain the function of financial markets and financial intermediaries in the economy
 12. apply the techniques of business communication including written presentations
 13. explain the function of financial markets and financial intermediaries in the economy
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College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (~~1 Course, 3 Credits~~):

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (~~4 Courses, 12 Credits~~) (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (4 crs.) – **MAT 2200 – Business Statistics (4 crs.)**

Life & Physical Sciences Course (3 crs.)*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

Flexible Core (6 Courses, 18 Credits):

When Flexible Core Courses are specified for a category, they are required for the major

One course from each Group A B, C, and D-E. (Group D is satisfied by courses shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course

ECO 1200 – Macroeconomics (3 crs.)

ECO 1300 – Microeconomics (3 crs.)

- E. Scientific World Designated Course*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

No more than two courses can be selected from the same discipline

Major Requirements (9 Courses, 29 Credits):

ACC 1100 – Fundamentals of Accounting I (4 crs.)

ACC 1200 – Fundamentals of Accounting II (4 crs.)

BA 1100 – Fundamentals of Business (3 crs.)

BA 1200 – Business Law I (3 crs.)

BA 1400 – Principles of Marketing (3 crs.)

BA 3100 – Organizational Behavior and Management (3 crs.)

BA 3300 – Business Communications (3 crs.)

BA 6000 – Introduction to Computer Concepts (3 crs.)

~~ECO 1200 – Macroeconomics (3 crs.)~~

AND

Choose **one (1) of the following courses:**

BA 1300 – Business Law II (3 crs.) **or**

BA 6100 – Spreadsheet Applications in Business (3 crs.) **or**

ECO 1400 – Money and Banking (3 crs.) **or**

TAH 500 – Labor Relations and Customer Service Practices (3 crs.)**

Electives:

0 credits sufficient to meet required total of 60 credits

Notes:

**Students interested in pursuing careers in Customer Service should take this course

TOTAL CREDITS: 60

A.S. CHEMICAL DEPENDENCY

ACADEMIC DEPARTMENT: Behavioral Sciences and Human Services

HEGIS: 5506.00

PROGRAM CODE: 33508

CHAIRPERSON: Dr. Susan Farrell

PROGRAM DIRECTOR: Prof. Monica Joseph

OFFICE LOCATION: D-309

TELEPHONE: (718) 368-5630

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Chemical Dependency degree program requirements, graduates will:

1. understand fundamental concepts specific to chemical dependency that encompass historical, political, social and legal factors
 2. examine the biopsychosocial nature of addiction as it pertains to the individual, families, communities, and societies
 3. adopt critical thinking approaches to attitudes, values, and the ethical and legal aspects of clinical practice
 4. understand risk and protective factors for individuals, families, and communities
 5. apply critical assessments to evidence-based practices, available treatment modalities, and theoretical approaches
 6. develop competency-based skills in intervening with chemically-involved individuals, families and special populations
 7. develop a multicultural perspective through the attainment of cultural competency strategies and skills
 8. demonstrate preparation for entry into professional practice through successful internship experiences
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College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement ~~(1 Course, 3 Credits):~~

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 12 Credits):

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)*

Life & Physical Sciences Course (3 crs.)*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

Flexible Core (6 Courses, 18 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A, B, and C. (Groups D and E are satisfied by courses shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course

PSY 3600 – Abnormal Psychology (3 crs.)

- E. Scientific World Designated Course

PSY 1100 – General Psychology (3 crs.)

PLUS one (1) additional course selected from Group A to E*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

No more than two courses can be selected from the same discipline

Major Requirements (~~10 Courses, 29 to 30 Credits~~) (9 Courses, 26 to 27 Credits):

~~PSY 3600 – Abnormal Psychology (3 crs.)~~

SAC 2000 – Introduction to Substance Abuse Counseling (3 crs.)

SAC 2200 – Basic Techniques in Substance Abuse Counseling I (3 crs.)

SAC 2400 – Basic Techniques in Substance Abuse Counseling II (3 crs.)

SAC 2600 – Ethics, Confidentiality, & Counselor/Client Relationship (3 crs.)

SAC 2800 – Approaches to Treatment: Varieties of Alcohol and Substance Abuse Modalities (3 crs.)

SAC 3000 – Compulsive Gambling: Treatment and Prevention (4 crs.) **or**

SAC 3200 – Addiction and the Family (3 crs.)

SAC 091A – Supervised Instructional Experience in Substance Abuse Counseling I (4 crs.)

SAC 091B – Supervised Instructional Experience in Substance Abuse Counseling II (3 crs.)

HE 1400 – Critical Issues in Personal Health (1 cr.)

Electives:

3 to 4 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. CHEMISTRY

ACADEMIC DEPARTMENT: Physical Sciences

HEGIS: 5619.00

PROGRAM CODE: 01043

CHAIRPERSON: Dr. John Mikalopas

OFFICE LOCATION: S-243

TELEPHONE: (718) 368-5746

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Chemistry degree program requirements, graduates will:

1. employ mathematics, science, and computing techniques to support the study and solution of chemistry problems
 2. understand the principles and methods of chemistry and how these are applied to the solution of chemical problems
 3. demonstrate practical skills in modern laboratory techniques, methods, instrumentation, and data analysis
 4. communicate clearly their understandings of chemistry and of their specific activity in the field orally and in writing
 5. understand the importance of professional and ethical responsibilities of chemists
 6. recognize environmental constraints and safety issues in chemistry
 7. exhibit good teamwork skills and serve as effective members of teams
 8. be prepared for a lifetime of continuing education
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 14 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – MAT 1500 – Calculus I (4 crs.)*~~or~~

~~MAT 1600 – Calculus II (4 crs.)~~

Life & Physical Sciences Course - CHM 1100 – General Chemistry I (4 crs.)*~~or~~

~~CHM 1200 – General Chemistry II (4 crs.)* or~~

~~PHY 1300 – Advanced General Physics I (4 crs.)* or~~

~~PHY 1400 – Advanced General Physics II (4 crs.)*~~

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by the course shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core*

MAT 1600 – Calculus II (4 crs.)* or

CHM 1200 – General Chemistry II (4 crs.)* or

PHY 1300 – Advanced General Physics I (4 crs.)* or

PHY 1400 – Advanced General Physics II (4 crs.)*

One Additional Course selected from Group E listed above if not taken for Required or Flexible Core*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (8 Courses, 34 Credits): (4 Courses, 18 Credits)

MAT 1500 – Calculus I (4 crs.)

MAT 1600 – Calculus II (4 crs.)

CHM 1100 – General Chemistry I (4 crs.)

CHM 1200 – General Chemistry II (4 crs.)

CHM 3100 – Organic Chemistry I (5 crs.)

CHM 3200 – Organic Chemistry II (5 crs.)

PHY 1300 – Advanced General Physics I (4 crs.)

PHY 1400 – Advanced General Physics II (4 crs.)

Electives:

8 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. COMPUTER SCIENCE

ACADEMIC DEPARTMENT: Mathematics and Computer Science

HEGIS: 5103.00

PROGRAM CODE: 01040

CHAIRPERSON: Dr. Rina Yarmish

OFFICE LOCATION: F-309

TELEPHONE: (718) 368-5931

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Computer Science degree program requirements, graduates will:

1. analyze, design, implement, and understand computer based solutions and apply them to real world applications
 2. demonstrate proficiency in programming concepts and techniques by creating logically sound and efficient algorithms
 3. demonstrate ability to analyze and troubleshoot computer problems and identify appropriate solutions
 4. comprehend the structure of a computing system, design of its basic components, and interaction of hardware and software
 5. demonstrate the ability to transfer a graphical representation of a logical process to a written representation
 6. ability to apply mathematical knowledge in the areas of calculus and discrete mathematics to problems in computer science
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline from any category below is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required or Flexible Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – **MAT 1500 – Calculus I (4 crs.)* or**

MAT 1600 – Calculus II (4 crs.)* or

MAT/BIO 9100 – Biostatistics (4 crs.)* or

BA/MAT 2200 – Business Statistics (4 crs.)*

Life & Physical Sciences Course (3 crs.)

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by the course shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core*

~~MAT 1500 – Calculus I (4 crs.)* or~~

~~MAT 1600 – Calculus II (4 crs.)* or~~

~~MAT/BIO 9100 – Biostatistics (4 crs.)* or~~

~~BA/MAT 2200 – Business Statistics (4 crs.)* or~~

~~CS 1200 – Introduction to Computing (4 crs.)* or~~

~~CS 130A – Advanced Programming Techniques (4 crs.)*~~

One Additional Course selected from Group E listed above if not taken for Required or Flexible Core*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (11 Courses, 39 Credits) (8 Courses, 27 Credits):

~~CS 1200 – Introduction to Computing (4 crs.)~~

CS 130A – Advanced Programming Techniques (4 crs.)

CS 1400 – Computer and Assembly Language Programming (4 crs.)

CS 3500 – Discrete Structures (4 crs.)

CS 3700 – Data Structures (4 crs.)

~~MAT 1500 – Calculus I (4 crs.)~~

~~MAT 1600 – Calculus II (4 crs.)~~

MAT 2100 – Calculus III (4 crs.)

~~MAT 5600 – Linear Algebra (3 crs.)~~

MAT/BIO 9100 – Biostatistics (4 crs.) or

BA/MAT 2200 – Business Statistics (4 crs.)

MAT 5500 – Differential Equations (3 crs.)

~~HE 1400 – Critical Issues in Personal Health (1 cr.)~~

Electives:

0 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. EARLY CHILDHOOD EDUCATION/CHILD CARE

ACADEMIC DEPARTMENT: Behavioral Sciences and Human Services

HEGIS: 5503.00

PROGRAM CODE: 01063

CHAIRPERSON: Dr. Susan Farrell

PROGRAM DIRECTORS: Dr. Florence Schneider

OFFICE LOCATION: V-116

TELEPHONE: (718) 368-5964

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Early Childhood Education/Child Care degree program requirements, graduates will:

1. understand various theories of teaching, learning, and development
 2. identify age-appropriate curriculum goals and recognize methods used to achieve those goals
 3. effectively design and implement developmentally appropriate learning experiences in all content areas
 4. engage in self-reflection to evaluate performance and progress
 5. understand the social, economic, political, and cultural issues that impact families and schooling
 6. foster a positive regard for individual students and their families regardless of differences
 7. use critical thinking and analysis when speaking, reading, and writing
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement ~~(1 Course, 3 Credits):~~

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 12 Credits):

When Required Core Courses are specified for a category, they are required for the major

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)*

Life & Physical Sciences Course (3 crs.)*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

Flexible Core (6 Courses, 18 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A, B, and C, to E. (Groups D and E are satisfied by courses shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
PSY 3000 – Child and Adolescent Development (3 crs.)
- E. Scientific World Designated Course
PSY 1100 – Introduction to Psychology (3 crs.)
PLUS one (1) additional course selected from Group A to E*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

No more than two courses can be selected from the same discipline

Major Requirements (9 Courses, 24 Credits) (8 Courses 21 Credits):

EDC 200 – Social Foundations of Education (3 crs.)

PSY 2400 – Psychological Disorders in Young Children (3 crs.) **OR**

FOR TRANSFER TO THE COLLEGE OF STATEN ISLAND HIS 7000 – Historical Geography (3 crs.)

PSY 3000 – Child and Adolescent Development (3 crs.)

EDC 2100 – Social Science in Education (3 crs.)

EDC 2200 – Art Workshop in Education (3 crs.)

EDC 2300 – Music and Movement Workshop in Education (2 crs.)

EDC 2800 – Techniques in Math, Science and Technology Teaching for Early Childhood Education (2 crs.)

EDC 9307 – Supervised Instructional Experience in Education II (3 crs.)

HUM 200 – Early Literacy and Children’s Literature (2 crs.)

Concentrations (2 Courses, 6 Credits):

Select **one (1)** of the following concentrations:

A. Early Childhood Education/Childcare (2 Courses, 6 Credits):

EDC 3000 – Seminar and Practicum in Education (3 crs.)

EDC 9105 – Supervised Instructional Experience in Education I (3 crs.)

OR

B. Infancy/Toddler Development (2 Courses, 6 Credits):

EDC 3200 – Infant/Toddler Development (3 crs.)

EDC 9400 – Supervised Instructional Experience in Infant/Toddler Education (3 crs.)

Electives:

3 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. EARTH AND PLANETARY SCIENCES

ACADEMIC DEPARTMENT: Physical Sciences

HEGIS: 5499.00

PROGRAM CODE: 34242

CHAIRPERSON: Dr. John Mikalopas

OFFICE LOCATION: S-243

TELEPHONE: (718) 368-5746

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Earth and Planetary Sciences degree program requirements, graduates will:

1. demonstrate an understanding of the earth's subsystems
 2. be able to describe the interaction and evolution of these subsystems on different temporal and spatial scales
 3. demonstrate an understanding of the nature of human interactions with the earth subsystems
 4. demonstrate a recognition of the relevance of the earth system to the individual and to society
 5. recognize, describe, and analyze the types of natural hazards and natural resources
 6. demonstrate an understanding of the nature of scientific knowledge and its historical development
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline from any category below is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 14 Credits):

When Required or Flexible Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – MAT 1500 – Calculus I (4 crs.)* ~~or~~
MAT 1600 – Calculus II (4 crs.)*

Life & Physical Sciences Course - CHM 1100 – General Chemistry I (4 crs.)* ~~or~~

PHY 1100 – General Physics I (4 crs.)* ~~or~~

EPS 3100 – Meteorology (4 crs.)* ~~or~~

EPS 3200 – Oceanography (4 crs.)* ~~or~~

EPS 3300 – Physical Geography (4 crs.)* ~~or~~

EPS 3500 – Astronomy (4 crs.)* ~~or~~

EPS 3600 – Planetology (4 crs.)* or

EPS 3800 – Introduction to Earth Science (4 crs.)*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by the course shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core*

~~MAT 1500 – Calculus I (4 crs.)* or~~

~~MAT 1600 – Calculus II (4 crs.)* or~~

~~CHM 1100 – General Chemistry I (4 crs.)* or~~

~~PHY 1100 – General Physics I (4 crs.)* or~~

~~EPS 3100 – Meteorology (4 crs.)* or~~

~~EPS 3200 – Oceanography (4 crs.)* or~~

~~EPS 3300 – Physical Geography (4 crs.)* or~~

~~EPS 3500 – Astronomy (4 crs.)* or~~

~~EPS 3600 – Planetology (4 crs.)* or~~

~~EPS 3800 – Introduction to Earth Science (4 crs.)*~~

One Additional Course selected from Group E listed above if not taken for Required or Flexible Core*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (10 Courses, 40 Credits) (6 Courses, 24 Credits):

~~MAT 1500 – Calculus I (4 crs.)~~

~~MAT 1600 – Calculus II (4 crs.)~~

~~CHM 1100 – General Chemistry I (4 crs.)~~

~~PHY 1100 – General Physics I (4 crs.)~~

EPS 3100 – Meteorology (4 crs.)

EPS 3200 – Oceanography (4 crs.)

EPS 3300 – Physical Geography (4 crs.)

EPS 3500 – Astronomy (4 crs.)

EPS 3600 – Planetology (4 crs.)

EPS 3800 – Introduction to Earth Science (4 crs.)

Electives:

2 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. ENGINEERING SCIENCE

ACADEMIC DEPARTMENT: Physical Sciences

HEGIS: 5609.00

PROGRAM CODE: 87212

CHAIRPERSON: Dr. John Mikalopas

OFFICE LOCATION: S-243

TELEPHONE: (718) 368-5746

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Engineering Science degree program requirements, graduates will:

1. employ mathematics, science, and computing techniques to support the study and solution of engineering problems
 2. understand the principles and methods of engineering
 3. demonstrate practical skills in modern laboratory techniques, methods, instrumentation, and data analysis
 4. communicate clearly their understandings of engineering and of their specific activity in the field orally and in writing
 5. understand the importance of professional and ethical responsibilities of engineers
 6. recognize environmental constraints and safety issues in engineering
 7. exhibit good teamwork skills and serve as effective members of teams
 8. be prepared for a lifetime of continuing education
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 14 Credits):

When Required or Flexible Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – ~~MAT 1500 – Calculus I (4 crs.)* or~~

~~MAT 1600 – Calculus II (4 crs.)*~~

Life & Physical Sciences Course - ~~CHM 1100 – General Chemistry I (4 crs.)* or~~

~~CHM 1200 – General Chemistry II (4 crs.)* or~~

~~PHY 1300 – Advanced General Physics I (4 crs.)* or~~

~~PHY 1400 – Advanced General Physics II (4 crs.)*~~

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by the course shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core*

~~MAT 1500 – Calculus I (4 crs.)* or~~

~~MAT 1600 – Calculus II (4 crs.)* or~~

~~CHM 1100 – General Chemistry I (4 crs.)* or~~

~~CHM 1200 – General Chemistry II (4 crs.)* or~~

~~PHY 1300 – Advanced General Physics I (4 crs.)* or~~

~~PHY 1400 – Advanced General Physics II (4 crs.)* or~~

~~CS 1200 – Introduction to Computing (4 crs.)*~~

One Additional Course selected from Group E listed above if not taken for Required or Flexible Core*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (13 Courses, 48 Credits) (9 Courses, 32 credits):

~~MAT 1500 – Calculus I (4 crs.)~~

~~MAT 1600 – Calculus II (4 crs.)~~

MAT 2100 – Calculus III (4 crs.)

MAT 5500 – Differential Equations (3 crs.)

MAT 5600 – Linear Algebra (4 crs.)

CS 1200 – Introduction to Computing (4 crs.)

~~CHM 1100 – General Chemistry I (4 crs.)~~

~~CHM 1200 – General Chemistry II (4 crs.)~~

PHY 1300 – Advanced General Physics I (4 crs.)

PHY 1400 – Advanced General Physics II (4 crs.)

EGR 2100 – Engineering Design (3 crs.)

EGR 2200 – Introduction to Electrical Engineering (3 crs.)

EGR 2300 – Introduction to Engineering Thermodynamics (3 crs.)

Electives:

0 to 4 credits sufficient to meet required total of 66 to 70 credits

TOTAL CREDITS: 66 to 70

A.S. EXERCISE SCIENCE/PERSONAL TRAINING

ACADEMIC DEPARTMENT: Health, Physical Education and Recreation

HEGIS: 5299.30

PROGRAM CODE: 22486

CHAIRPERSON: Dr. Donald Hume

PROGRAM DIRECTOR: Prof. Christine Fey

OFFICE LOCATION: G-201

TELEPHONE: (718) 368-5696

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Exercise Science/Personal Training degree program requirements, graduates will:

1. prepare successfully for transfer to a baccalaureate level program in exercise science or a related field
 2. prepare for entry into the personal training job market, or for the establishment of a personal training business
 3. prepare successfully for the certification examinations of prestigious, nationally recognized fitness organizations
 4. exhibit an understanding of the principles of the biological aspects of life as they relate to movement and exercise
 5. communicate effectively and use technology to exchange information necessary for working in a personal training setting
 6. conduct an evaluation consisting of a health appraisal, physical screening and fitness assessment
 7. interpret results to determine client's risk factors, need for medical clearance, and base level of fitness
 8. design safe, effective exercise programs based upon a client's evaluation that meet the needs and goals of the client
 9. instruct and correct individuals on the performance of exercises, with emphasis on safe, biomechanically correct form
 10. maintain a safe environment while conducting personal training activities, and provide first aid or CPR as needed
 11. identify signs and symptoms that call for termination of an exercise session, or the suspension of an exercise program
 12. motivate clients to maintain adherence to an exercise program and to live a healthy lifestyle
 13. demonstrate rapport with peers and demonstrate compliance with standards for professional ethics and competency
 14. promote physical, emotional and psychological benefits of a wellness-oriented lifestyle
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 Course, 3 Credits):

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)

Life & Physical Sciences Course – **BIO 1100 –Anatomy and Physiology I (4 crs.)***~~or~~

~~**BIO 1200 – Anatomy and Physiology II (4 crs)***~~

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 19 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. **(Group E is satisfied by the courses shown.)**

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course

- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core
 - ~~BIO 1100 – Anatomy and Physiology I (4 crs.)* or~~
 - ~~BIO 7000 – Science of Nutrition (3 crs.) or~~
 - ~~BIO 1200 – Anatomy and Physiology II (4 crs.)*~~
 - ~~PSY 1100 – General Psychology (3 crs.)~~

~~One Additional Course selected from Group E listed above if not taken for Required or Flexible Core~~

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements ~~(16 Courses, 39 Credits)~~ (13 Courses, 27 Credits):

~~BIO 1100 – Anatomy and Physiology I (4 crs.)~~

~~BIO 1200 – Anatomy and Physiology II (4 crs.)~~

~~BIO 7000 – Science of Nutrition (3 crs.)~~

~~EXS 9000 – Introduction to Personal Training (3 crs.)~~

~~EXS XXXX – Introduction to Exercise Science (3 crs.)~~

~~EXS 1000 – Kinesiology of Exercise (3 crs.)~~

~~EXS 1100 – Physiology of Exercise (3 crs.)~~

~~EXS 1200 – Health Risk Appraisal (3 crs.)~~

EXS 1300 – Fitness Assessment and Program Design (3 crs.)

EXS 1500 – Lifetime Strength and Flexibility (3 crs.)

~~EXS 91X6 – Field Experience in Exercise Science (3 crs.)~~

~~HE 2000 – Cardiopulmonary Resuscitation (2 crs.)~~

HE 3500 – First Aid and Personal Safety (2 crs.)

~~HE 1400 – Critical Issues in Personal Health (1 crs.)~~

HE 4200 – Health and Nutrition (3 crs.)

HE 5000 – Weight Management (2 crs.)

HPE 1200 – Concepts of Wellness (3 crs.)

BA 6000 – Introduction to Computer Concepts (3 crs.)

AND

Select ~~one (1)~~ **five (5)** courses from among the following three groups, with no more than **two (2)** course from any group (5 Courses, 5 Credits):

Group I (1 Course, 1 Credit):

PEC 1900 – Aerobic Dance (1 cr.)

PEC 200 – Walk, Jog, Run (1 cr.)

PEC 7100 – High Intensity Fitness Training (1 cr.)

Group II (1 Course, 1 Credit):

PEC 3000 –Swimming for Non-Swimmers and Beginners (1 cr.)

PEC 3300 – Advanced Swimming (1 cr.)

PEC 6500 – Aqua Exercise (1 cr.)

Group III (1 Course, 1 Credit):

PEC 2500 – Tai Chi Chuan (1 cr.)

PEC 2900 – Introduction to Hatha Yoga (1 cr.)

PEC 5600 – Pilates System of Exercise (1 cr.)

PEC 2700 – Beginner Karate and Self-Defense (1 cr.)

PEW 2100 – Personal Self-Defense for Women (1 cr.)

Electives:

1 credit sufficient to meet required total of 60 credits. *Recommended: A Student Development course or Integrative Seminar course as part of Learning Communities.*

TOTAL CREDITS: 60

A.S FINE ARTS

ACADEMIC DEPARTMENT: Art

HEGIS: 5610.00

PROGRAM CODE: 76002

CHAIRPERSON: Prof. Jose Arenas

OFFICE LOCATION: S-155

TELEPHONE: (718) 368-5718

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Fine Arts degree program requirements, graduates will:

1. apply the visual and writing skills needed to identify the main concepts governing a work of art to compare, critically analyze and discuss them in terms of their stylistic, social and historical contexts (visual literacy and critical analysis)
 2. develop and apply the skills needed to use and control the basic materials employed in each studio art concentration, and/or the database research tools and writing skills employed in the study of art history. Students will also demonstrate safe studio practices in the proper use of tools and equipment, and/or proper research practices in terms of gathering, employing and citing primary and secondary sources (technical skills and professional practices)
 3. be able to discuss works of art verbally, using acquired art-specific vocabulary during classroom discussions and, where possible, in-class presentations (oral communication)
 4. conceive and execute well-informed, creative and innovative solutions to visual problems while working within assignment boundaries (concepts)
 5. develop the ability to distinguish and analyze a resolved, well-executed work of art through an understanding of how form, color, and composition generate content (aesthetics)
 6. produce a presentation portfolio or a written body of work that demonstrates department expectations within each concentration (portfolio)
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 Course, 3 Credits):

One (1) Writing Intensive course in any discipline from any category below is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 12 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)*

Life & Physical Sciences Course (3 crs.)*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

Flexible Core (6 Courses, 18 Credits):

When Flexible Core Courses are specified for a category, they are required for the major

One course from each Group B to E. (Group A is satisfied by courses shown.)

- A. World Cultures and Global Issues Designated Course

ART 3300 – Survey of Art History I (3 crs.)

ART 3400 – Survey of Art History II (3 crs.)

- B. U.S. Experience in its Diversity Designated Course

- C. Creative Expression Designated Course

- D. Individual and Society Designated Course

- E. Scientific World Designated Course*

One Additional Course selected from Group A to E*

*Note: You may elect to take a math or science course that is 4 credits or more. TAP counts 3 credits towards the requirements and the 4th credit as an elective.

No more than two courses can be selected from the same discipline

Major Requirements (4 Courses, 12 Credits) (2 Courses, 6 Credits):

~~ART 3300 – Survey of Art History I (3 crs.)~~

~~ART 3400 – Survey of Art History II (3 crs.)~~

ART 5500 – Design I (3 crs.)

ART 5700 – Drawing I (3 crs.)

Concentrations (5 Courses, 15, 16, or 17 Credits):

Select **one (1)** of the following concentrations:

Art History (5 courses, 15 Credits):

ART 3500 – Modern Art I (3 crs.)

ART 3600 – Modern Art II (3 crs.)

ART 3700 – African, Oceanic and Native American Art (3 crs.)

ART 3800 – Renaissance Art (3 crs.)

Recommended Elective (3 crs.)

OR

Ceramics (5 Courses, 15 to 16 Credits):

ART 6300 – Ceramics I (3 crs.)

ART 6400 – Ceramics II (3 crs.)

ART 6800 – Ceramics Sculpture (3 crs.)

Recommended Electives (6 to 7 crs.)

OR

Drawing and Painting (5 Courses, 16 to 17 Credits):

ART 5800 – Drawing II (3 crs.)

ART 5900 – Painting I (3 crs.)

ART 6000 – Painting II (4 crs.)

Recommended Electives (6 to 7 crs.)

OR

Photography (5 Courses, 15 Credits):

ART 5100 – Photography I (3 crs.)

ART 5200 – Photography II (3 crs.)

ART 9400 – The Art of Digital Photography (3 crs.)

Recommended Electives (6 crs.)

OR

Sculpture (5 Courses, 15 Credits):

ART 5100 – Photography I (3 crs.)

ART 5200 – Photography II (3 crs.)

ART 9400 – The Art of Digital Photography (3 crs.)

Recommended Electives (6 crs.)

Electives:

7 to 9 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. MATHEMATICS

ACADEMIC DEPARTMENT: Mathematics and Computer Science

HEGIS: 5617.00

PROGRAM CODE: 01041

CHAIRPERSON: Dr. Rina Yarmish

OFFICE LOCATION: F-309

TELEPHONE: (718) 368-5931

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Mathematics degree program requirements, graduates will:

1. demonstrate the ability to use symbolic graphical and numerical representation of mathematical ideas
 2. demonstrate conceptual ability for problem-solving using arithmetic, algebraic, statistical and geometric models
 3. demonstrate quantitative ability for problem-solving using arithmetic, algebraic, statistical and geometric models
 4. demonstrate the ability to communicate mathematical ideas clearly
 5. demonstrate the ability to estimate and check answers to mathematical problems and determining reasonableness or results
 6. demonstrate a mastery of skills of differentiation and integration for entry into a third year baccalaureate program
 7. demonstrate a mastery of skills for manipulating matrices and determinants
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline from any category below is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required or Flexible Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – **MAT 1500 – Calculus I (4 crs.)* or**

MAT 1600 – Calculus II (4 crs.)* or

MAT/BIO 9100 – Biostatistics (4 crs.)* or

MAT/BA 2200 – Business Statistics (4 crs.)*

Life & Physical Sciences Course (3 crs.)

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by the course shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core*

~~MAT 1500 – Calculus I (4 crs.)* or~~

~~MAT 1600 – Calculus II (4 crs.)* or~~

~~MAT/BIO 9100 – Biostatistics (4 crs.)* or~~

~~MAT/BA 2200 – Business Statistics (4 crs.)* or~~

~~CS 1200 – Introduction to Computing (4 crs.)* or~~

~~CS 13A0 – Advanced Programming Techniques (4 crs.)~~

One Additional Course selected from Group E listed above if not taken for Required or Flexible Core*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (11 Courses, 40 Credits) (8 Courses, 28 Credits):

~~MAT 1500 – Calculus I (4 crs.)~~

~~MAT 1600 – Calculus II (4 crs.)~~

MAT 2100 – Calculus III (4 crs.)

MAT 5500 – Differential Equations (3 crs.)

MAT 5600 – Linear Algebra (3 crs.)

MAT/BIO 9100 – Biostatistics (4 crs.) or

MAT/BA 200 – Business Statistics (4 crs.)

~~CS 1200 – Introduction to Computing (4 crs.)~~

CS 3500 – Discrete Structures (4 crs.)

HE 1400 – Critical Issues in Personal Health (1 cr.)

AND

Select **two (2)** courses from the following:

CS 13A0 – Advanced Programming Techniques (4 crs.)

CS 1400 – Computer and Assembly Language Programming (4 crs.)

MAT 1100 – Finite Mathematics (4 crs.)

MAT 3200 – Introduction to Set Theory (4 crs.)

MAT 7100 – Applications of Linear Algebra and Vector Analysis (4 crs.)

Electives:

0 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. PHYSICS

ACADEMIC DEPARTMENT: Physical Sciences

HEGIS: 5619.00

PROGRAM CODE: 01042

CHAIRPERSON: Dr. John Mikalopas

OFFICE LOCATION: S-243

TELEPHONE: (718) 368-5746

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Physics degree program requirements, graduates will:

1. be able to understand the fundamental laws, theories, and ideas of Physics (and related Mathematics and Physical Sciences)
 2. be able to evaluate and express empirical evidence supporting the fundamental laws, theories, and ideas of Physics (and related Mathematics and Physical Sciences)
 3. be able to apply the fundamental laws, theories, and ideas of Physics (and related Mathematics and Physical Sciences) to analyze problems or questions
 4. be able use the tools and methods of Physics (and related Mathematics and Physical Sciences) to gather, analyze, and interpret data
 5. be able to express themselves effectively in written exams and laboratory reports using the terminology, notations, and symbols of Physics (and related Mathematics and Physical Sciences)
 6. be able to understand the basic principles of Physics (and related Mathematics and Physical Sciences) underlying technological developments, scientific discovery, and matters of public policy and concern
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 14 Credits):

When Required or Flexible Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – **MAT 1500 – Calculus I (4 crs.)*** ~~or~~

MAT 1600 – Calculus II (4 crs.)*

Life & Physical Sciences Course - **CHM 1100 – General Chemistry I (4 crs.)*** ~~or~~

CHM 1200 – General Chemistry II (4 crs.)* ~~or~~

PHY 1300 – Advanced General Physics I (4 crs.)* ~~or~~

PHY 1400 – Advanced General Physics II (4 crs.)* ~~or~~

EPS 3300 – Physical Geology (4 crs.)* ~~or~~

EPS 3500 – Introduction to Astronomy (4 crs.)* ~~or~~

EPS 3600 – Planetology: A Trip Through the Solar System (4 crs.)*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by the course shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core*

~~MAT 1500 – Calculus I (4 crs.)* or~~

~~MAT 1600 – Calculus II (4 crs.)* or~~

~~CHM 1100 – General Chemistry I (4 crs.)* or~~

~~CHM 1200 – General Chemistry II (4 crs.)* or~~

~~PHY 1300 – Advanced General Physics I (4 crs.)* or~~

~~PHY 1400 – Advanced General Physics II (4 crs.)* or~~

~~EPS 3300 – Physical Geology (4 crs.)* or~~

~~EPS 3500 – Introduction to Astronomy (4 crs.)* or~~

~~EPS 3600 – Planetology: A Trip Through the Solar System (4 crs.)*~~

One Additional Course selected from Group E listed above if not taken for Required or Flexible Core*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (9 to 10 Courses, 32 to 35 Credits) (5 to 6 Courses, 20 to 23 Credits):

~~MAT 1500 – Calculus I (4 crs.)~~

~~MAT 1600 – Calculus II (4 crs.)~~

~~CHM 1100 – General Chemistry I (4 crs.)~~

~~CHM 1200 – General Chemistry II (4 crs.)~~

PHY 1300 – Advanced General Physics I (4 crs.)

PHY 1400 – Advanced General Physics II (4 crs.)

AND

Advanced Electives (8 to 11 credits):

Select only **ONE**, Either

MAT 5500 – Differential Equations (3 crs.) or

MAT 5600 – Linear Algebra (3 crs.)

OR

Select only **ONE**, Either

EGR 2200 – Introduction to Electrical Engineering (3 crs.) or

EGR 2300 – Introduction to Engineering Thermodynamics (3 crs.)

OR

Select only **ONE**, Either

EPS 3300 – Physical Geology (4 crs.) or

EPS 3500 – Introduction to Astronomy (4 crs.) or

EPS 3600 – Planetology: A Trip Through the Solar System (4 crs.)

OR

PHY 81XX – Independent Study (1 to 3 crs.)

Electives:

7 to 10 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.S. SCIENCE OF FORENSICS

ACADEMIC DEPARTMENT: Physical Sciences

HEGIS: 5619.00

PROGRAM CODE: 34472

CHAIRPERSON: Dr. John Mikalopas

OFFICE LOCATION: S-243

TELEPHONE: (718) 368-5746

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Science of Forensics degree program requirements, graduates will:

1. be able to understand the fundamental laws, theories, and ideas of Physics (and related Mathematics and Physical Sciences)
 2. be able to evaluate and express empirical evidence supporting the fundamental laws, theories, and ideas of Physics (and related Mathematics and Physical Sciences)
 3. be able to apply the fundamental laws, theories, and ideas of Physics (and related Mathematics and Physical Sciences) to analyze problems or questions
 4. be able use the tools and methods of Physics (and related Mathematics and Physical Sciences) to gather, analyze, and interpret data
 5. be able to express themselves effectively in written exams and laboratory reports using the terminology, notations, and symbols of Physics (and related Mathematics and Physical Sciences)
 6. be able to understand the basic principles of Physics (and related Mathematics and Physical Sciences) underlying technological developments, scientific discovery, and matters of public policy and concern
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 14 Credits):

When Required or Flexible Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – **MAT 1500 – Calculus I (4 crs.)* or**

~~MAT 1600 – Calculus II (4 crs.)*~~

Life & Physical Sciences Course - **BIO 1300 – General Biology I (4 crs.)* or**

~~BIO 1400 – General Biology II (4 crs.)* or~~

~~CHM 1100 – General Chemistry I (4 crs.)* or~~

~~CHM 1200 – General Chemistry II (4 crs.)* or~~

~~PHY 1300 – Advanced General Physics I (4 crs.)* or~~

~~PHY 1400 – Advanced General Physics II (4 crs.)*~~

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

One course from each Group A to D. (Group E is satisfied by the course shown.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course, if not taken for Required Core*

~~MAT 1500 – Calculus I (4 crs.)* or~~

~~MAT 1600 – Calculus II (4 crs.)* or~~

~~BIO 1300 – General Biology I (4 crs.)* or~~

~~BIO 1400 – General Biology II (4 crs.)* or~~

~~CHM 1100 – General Chemistry I (4 crs.)* or~~

~~CHM 1200 – General Chemistry II (4 crs.)* or~~

~~PHY 1300 – Advanced General Physics I (4 crs.)* or~~

~~PHY 1400 – Advanced General Physics II (4 crs.)*~~

One Additional Course selected from Group E listed above if not taken for Required or Flexible Core*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

No more than two courses can be selected from the same discipline

Major Requirements (10 Courses, 42 Credits) (6 Courses, 26 Credits)

~~MAT 1500 – Calculus I (4 crs.)~~

~~MAT 1600 – Calculus II (4 crs.)~~

A cumulative grade point average of 2.50 or above, which includes BIO 1300 and BIO 1400, as well as the following 26 credits is required:

~~BIO 1300 – General Biology I (4 crs.)~~

~~BIO 1400 – General Biology II (4 crs.)~~

CHM 1100 – General Chemistry I (4 crs.)

CHM 1200 – General Chemistry II (4 crs.)

CHM 3100 – Organic Chemistry I (5 crs.)

CHM 3200 – Organic Chemistry II (5 crs.)

PHY 1300 – Advanced General Physics I (4 crs.)

PHY 1400 – Advanced General Physics II (4 crs.)

Electives:

0 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

2016-2017

associate in applied science

THE ASSOCIATE IN APPLIED SCIENCE (A.A.S.) DEGREE

The Kingsborough Associate in Applied Science degree programs were specifically designed for students who wish to start a career on a semi-professional level immediately after graduating from the college. The essential liberal arts courses are included to equip students with knowledge, understanding and career flexibility allowing for the option to continue for further education.

A student must earn at least a “C” average (2.00 index) and have fulfilled all degree requirements to be certified for the degree.

A.A.S. EMERGENCY MEDICAL SERVICES – PARAMEDIC (EMS-P)

ACADEMIC DEPARTMENT: Nursing

HEGIS: 5299.00

PROGRAM CODE: 35164

CHAIRPERSON: Prof. Bridgette Weeks

PROGRAM DIRECTOR: Prof. Kirt Bowen

OFFICE LOCATION: T-2, Room 207

TELEPHONE: (718) 368-5522

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Emergency Medical Services – Paramedic (EMS-P) degree program requirements, graduates will:

1. understand his/her roles and responsibilities as an entry-level paramedic within an ems system, and how these roles/responsibilities differ from other levels of providers
 2. integrate comprehensive knowledge of ems systems, safety/well-being of the paramedic and medical/legal and ethical issues, which is intended to improve the health of ems personnel, patients, and the community.
 3. integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression and treatment/disposition plan for a patient with special needs and patients of all ages.
 4. apply fundamental knowledge of principles of public health and epidemiology including public health emergencies, health promotion, and illness and injury prevention.
 5. integrate comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient.
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline from any category below is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)

Life & Physical Sciences Course – **BIO 1100 – Anatomy and Physiology I (4 crs.)***

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (2 Courses, 7 Credits):

When Flexible Core Courses are specified for a category, they are required for the major (Group E is satisfied by courses shown):

- E. Scientific World Designated Course, if not taken for Required Core*
 BIO 1200 – Anatomy and Physiology II (4 crs.)* AND
 PSY 1100 – General Psychology (3 crs.)*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Major Requirements (~~13 Courses, 51 Credits~~) (10 Courses, 40 Credits):

~~BIO 1100 – Anatomy and Physiology I (4 crs.)~~

~~BIO 1200 – Anatomy and Physiology II (4 crs.)~~

~~PSY 1100 – General Psychology (3 crs.)~~

EMS 100 – Emergency Medical Technician – Basic (5 crs.)

EMS 101 – EMT-Basic Clinical I (1 cr.)

EMS 210 – Paramedic I (7 crs.)

EMS 211 – Paramedic Clinical I (2 crs.)

EMS 220 – Paramedic II (5 crs.)

EMS 221 – Paramedic Clinical II (3 crs.)

EMS 230 – Paramedic III (7 crs.)

EMS 231 – Paramedic Clinical III (2 crs.)

EMS 240 – Paramedic IV (5 crs.)

EMS 241 – Paramedic Clinical IV (3 crs.)

Electives:

0 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.A.S. MARITIME TECHNOLOGY

ACADEMIC DEPARTMENT: Tourism and Hospitality

HEGIS: 5403.00

PROGRAM CODE: 31208

CHAIRPERSON: Dr. Anthony Borgese

PROGRAM DIRECTOR: Prof. John Nappo

OFFICE LOCATION: V-226

TELEPHONE: (718) 368-5143

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Maritime Technology degree program requirements, graduates will:

1. understand traditional and modern seamanship skills as it relates to different propulsion systems
 2. understand the topic of coastal piloting and navigation and the proper installation of electronic equipment
 3. demonstrate safe operation and maintenance of vessels
 4. demonstrate prevention and safety response in first aid, personal survival, social responsibility and fire prevention
 5. understand operational theory of internal combustion engines and their use in power generation and propulsion systems
 6. understand hydraulic systems and their application to vessel steering, winching equipment and vessel trim systems
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement **(1 course, 3 credits):**

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)*

For Marine Technician Option:

MAT 2000 – Elements of Statistics (3 crs.)*

Life & Physical Sciences Course – **EPS 3200 – Oceanography (4 crs.)***

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (3 Courses, 9 Credits):

When Flexible Core Courses are specified for a category, they are required for the major.

Nine (9) credits with one (1) course from three (3) Groups A to E. (non-Marine Technician Option) **Group E Satisfied by course shown for Marine**

Technician Option

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Course*

If not taken for Required Core:

~~EPS 3200 – Oceanography (4crs.)~~

For Marine Technician Option:

MAT 900 – College Algebra (3 crs.)

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Each Course Must be in a Different Discipline

Major Requirements (13 to 16 Courses, 34 to 44 Credits) (12 to 13 Courses, 30 to 34 Credits):

~~EPS 3200 – Oceanography (4crs.)~~

HE 3500 – First Aid and Personal Safety (2 crs.)

MT 3300 – Vessel Technology I (3 crs.)

MT 3400 – Vessel Technology II (3 crs.)

MT 4300 – Marina Operations (3 crs.)

MT 4600 – Coastal Piloting and Seamanship (4 crs.)

MT 5000 – Introduction to Outboard Motors (2 crs.)

MT 5100 – Introduction to Diesel Engines (2 crs.)

MT 5200 – Welding (2 crs.)

MT 5300 – Fiberglass, Refrigeration and Hydraulic Repairs (2 crs.)

MT 5400 – Low Voltage Electrical Systems (2 crs.)

MT 5500 – Marine Electronics (2 crs.)

BA 6000 – Introduction to Computer Concepts (3 crs.) **or**

For Marine Technician Option:

BA 6100 – Spreadsheet Applications in Business (3 crs.)

Plus for Marine Technician Option:

CP 500 – Introduction to Computer Programming (4 crs.)

~~MAT 900 – College Algebra (3 crs.)~~

~~MAT 2000 – Elements of Statistics (3 crs.)~~

Electives:

4 to 8 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.A.S. NURSING

ACADEMIC DEPARTMENT: Nursing

HEGIS: 5208.00

PROGRAM CODE:

CHAIRPERSON: Prof. Bridgette Weeks

OFFICE LOCATION: M-401

TELEPHONE: (718) 368-5522

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Nursing degree program requirements, graduates will:

1. provide safe, caring, evidence based nursing care to a diverse population of patients
 2. employ critical thinking/clinical reasoning strategies when providing nursing care
 3. engage in teamwork and collaboration with members of the intra-professional team
 4. employ informatics principles, techniques, and systems when providing nursing care
 5. demonstrate leadership/management in a variety of healthcare settings to provide and improve patient care
 6. apply professional, ethical, and legal principles relevant to the practice of a registered nurse
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College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline from any category below is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)

Life & Physical Sciences Course – **BIO 1100 – Anatomy and Physiology I (4 crs.)***

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (4 Courses, 13 Credits):

When Flexible Core Courses are specified for a category, they are required for the major (Group D and E are satisfied by courses shown):

D. Individual and Society*

PSY 3200 – Human Growth and Development (3 crs.)* AND

SOC 3100 – Introduction to Sociology (3 crs.)*

E. Scientific World Designated Course*

BIO 1200 – Anatomy and Physiology II (4 crs.)* AND

PSY 1100 – General Psychology (3 crs.)*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Major Requirements (15 Courses, 59 Credits) (10 Courses, 43 Credits):

~~PSY 1100 – General Psychology (3 crs.)~~

~~PSY 3200 – Human Growth and Development (3 crs.)~~

SCI 2500 – Applied Physical Science for Allied Health Careers (3 crs.)

NUR 1700 – Drug Calculations in Nursing (1 cr.)

NUR 1800 – Fundamentals of Nursing (7 crs.)

BIO 5100 – Microbiology in Health and Disease (4 crs.)

NUR 2100 – Nursing the Ill Adult I (9 crs.)

NUR 2000 – Nursing the Emotionally Ill (4 crs.)

NUR2200 – Nursing the Ill Adult II (5 crs.)

NUR 1900 – Family-Centered Maternity Nursing (4 crs.)

NUR 2300 – Nursing of Children (5 crs.)

NUR 2400 – Issues in Nursing (1 cr.)

Students are enrolled as a Liberal Arts major their first and second semesters as they complete the following prerequisite courses.

Students must meet specified grades for the below courses and must apply for Pre-Clinical:

PSY 1100 – General Psychology (3 crs.)

BIO 1100 – Human Anatomy and Physiology I (4 crs.)

BIO 1200 – Human Anatomy and Physiology II (4 crs.)

Once accepted, Pre-Clinical students are eligible to register for the following course:

SCI 2500 – Applied Physical Science for Allied Health Careers (3 crs.)

Pre-Clinical Students will then take the Test of Essential Academic Skills (TEAS), which will play a role in determining whether they are accepted into the Clinical Nursing Program.

FIRST SEMESTER OF CLINICAL COMPONENT

BIO 1200 – Human Anatomy and Physiology II (4 crs.)

PSY 3200 – Human Growth and Development (3 crs.)

NUR 1700 – Drug Calculations in Nursing (1 cr.)

NUR 1800 – Fundamentals of Nursing (7 crs.)

SECOND SEMESTER OF CLINICAL COMPONENT

BIO 5100 – Microbiology in Health and Disease (4 crs.)

NUR 2100 – Nursing the Ill Adult I (9 crs.)

THIRD SEMESTER OF CLINICAL COMPONENT

ENG 2400 – Composition II (3 crs.)

NUR 2000 – Nursing the Emotionally Ill (4 crs.)

NUR2200 – Nursing the Ill Adult II (5 crs.)

FOURTH SEMESTER OF CLINICAL COMPONENT

SOC 3100 – Introduction to Sociology (3 crs.)

NUR 1900 – Family-Centered Maternity Nursing (4 crs.)

NUR 2300 – Nursing of Children (5 crs.)

NUR 2400 – Issues in Nursing (1 cr.)

Electives:

0 credits sufficient to meet required total of 66 credits

TOTAL CREDITS: 66

A.A.S. PHYSICAL THERAPIST ASSISTANT

ACADEMIC DEPARTMENT: Biological Sciences

HEGIS: 5219.00

PROGRAM CODE:

CHAIRPERSON: Dr. Mary Dawson

OFFICE LOCATION: S-244

TELEPHONE: (718) 368-5502

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Physical Therapist Assistant degree program requirements, graduates will:

1. demonstrate PTA entry-level skills that are applicable to a variety of patient care settings
 2. demonstrate an awareness and commitment to patient dignity as well as social responsibility, citizenship, and advocacy
 3. recognize individual and cultural differences and respond appropriately in all aspects of physical therapy services
 4. demonstrate competence in implementing and adjusting selected components of interventions identified in the plan of care
 5. adjust interventions within the plan of care and report this and any changes in patient's status
 6. recognize when intervention should not be provided due to changes in the patient's status and respond appropriately
 7. demonstrate competency in performing components of data collection skills essential for carrying out the plan of care
 8. recognize when the direction to perform an intervention is beyond that which is appropriate
 9. communicate with the patient, the physical therapist, health care delivery personnel, and others
 10. communicate an understanding of the plan of care developed by physical therapist to achieve short and long term goals
 11. demonstrate sensitivity to patients' non-verbal behavior as it relates to their reaction to treatment services provided
 12. complete thorough, accurate, logical, concise, timely, and legible documentation
 13. demonstrate competency in the use of information technology
 14. participate in administrative functions within a physical therapy service
 15. participate in discharge planning and follow-up as directed by the supervising physical therapist
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College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement **(1 course, 3 credits):**

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – MAT 2000 – Elements of Statistics (3 crs.)*

Life & Physical Sciences Course – **BIO 1100 – Anatomy and Physiology I (4 crs.)**~~or~~

~~**BIO 1200 – Anatomy and Physiology II (4 crs.)**~~*

* This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (3 Courses, 10 Credits):

When Flexible Core Courses are specified for a category, they are required for the major (Group C and E are satisfied by courses shown):

- C. Creative Expression Designated Course:
SPE 2100 – Effective Public Speaking (3 crs.)
- E. Scientific World Designated Course, if not taken for Required Core*
PSY 1100 – General Psychology (3 crs.)*
BIO 1200 – Anatomy and Physiology II (4 crs.)*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Major Requirements (16 Courses, 60 Credits) (12 Courses, 46 Credits):

~~BIO 1100 – Anatomy and Physiology I (4 crs.)~~

~~BIO 1200 – Anatomy and Physiology II (4 crs.)~~

~~PSY 1100 – General Psychology I (3 crs.)~~

~~SPE 2100 – Effective Public Speaking (3 crs.)~~

PTA 100 – Foundations of Physical Therapy I (3 crs.)

PT 200 – Kinesiology and Applied Anatomy (4 crs.)

PTA 300 – Foundations of Physical Therapy II (3 crs.)

PTA 400 – Modalities and Procedures I (5 crs.)

PTA 500 – Therapeutic Exercise (5 crs.)

PTA 600 – Clinical Practicum I (3 crs.)

PTA 700 – Modalities and procedures II (4 crs.)

PTA 800 – Selected Topics in Physical Therapy (5 crs.)

PTA 900 – Clinical Practicum II (3 crs.)

PTA 1000 – Introduction to Physical Therapy (5 crs.)

PTA 2000 – Pathology (3 crs.)

PTA 2500 – Interactions in the Clinic (3 crs.)

Electives:

1 credit sufficient to meet required total of 68 credits

TOTAL CREDITS: 68

A.A.S. POLYSOMNOGRAPHIC TECHNOLOGY

ACADEMIC DEPARTMENT: Nursing

HEGIS: 5299.10

PROGRAM CODE:

CHAIRPERSON: Prof. Bridgette Weeks

OFFICE LOCATION: M-401

TELEPHONE: (718) 368-5522

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Polysomnographic Technology degree program requirements, graduates will:

1. demonstrate the knowledge and skills required to work in accredited sleep laboratories through the country
 2. be qualified to become licensed polysomnographic technicians in New York State
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College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement (1 course, 3 credits):

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course – **MAT 2000 – Elements of Statistics (3 crs.)***

Life & Physical Sciences Course – **BIO 1100 – Anatomy and Physiology I (4 crs.)***

* This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (4 Courses, 13 Credits):

When Flexible Core Courses are specified for a category, they are required for the major (Group D and E are satisfied by courses shown):

D. Individual and Society Designated Course:*

PHI 7600 – Ethics and Morality in the Health Professions (3 crs.)*

E. Scientific World Designated Courses:*

BIO 1200 – Anatomy and Physiology II (4 crs.)*

MAT 900 – College Algebra (3 crs.)

PSY 1100 – General Psychology (3 crs.)

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Major Requirements (15 Courses, 54 Credits) (9 Courses, 34 Credits):

~~BIO 1100 – Anatomy and Physiology I (4 crs.)~~

~~BIO 1200 – Anatomy and Physiology II (4 crs.)*~~

~~MAT 900 – College Algebra (3 crs.)~~

~~MAT 2000 – Elements of Statistics (3 crs.)~~

~~PSY 1100 – General Psychology (3 crs.)~~

~~PHI 7600 – Ethics and Morality in the Health Professions (3 crs.)*~~

PSG 100 – The Science of Sleep Circadian Rhythms (3 crs.)

PSG 101 – Neuroscience and Pharmacology in Sleep (4 crs.)

PSG 102 – Foundations of Polysomnography I (3 crs.)

PSG 103 – Clinical Practicum in Sleep Medicine I (6 crs.)

PSG 104 – Foundations of Polysomnography II (3 crs.)

PSG 105 – Clinical Polysomnographic Scoring (3 crs.)

PSG 106 – Classification of Sleep Disorders (3 crs.)

PSG 107 – Cardiopulmonary Physiology in Sleep (3 crs.)

PSG 108 – Clinical Practicum in Sleep Medicine II (6 crs.)

Electives:

0 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

A.A.S. SURGICAL TECHNOLOGY

ACADEMIC DEPARTMENT: Nursing

HEGIS: 5211.00

PROGRAM CODE: 35164

CHAIRPERSON: Prof. Bridgette Weeks

PROGRAM DIRECTOR: Prof. Richard Fruscione

OFFICE LOCATION: M-401

TELEPHONE: (718) 368-5522

The curriculum presented here applies to students who started the major in Fall 2016 or Spring 2017. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Surgical Technology degree program requirements, graduates will:

1. correlate the knowledge of medical terminology, surgical procedures, and anatomy and physiology to the student's role as a surgical technologist and recognize their relationship to safe patient care.
 2. understand the principles of safe patient care in the preoperative, intraoperative, and postoperative surgical settings.
 3. develop and apply fundamental surgical technology skills through practice and evaluation in the laboratory and clinical settings.
 4. accurately apply the principles of asepsis across the spectrum of common surgical experiences.
 5. recognize the variety of patient's needs and the impact of their personal, physical, emotional, and cultural experiences.
 6. demonstrate professional responsibility in performance, attitude, and personal conduct in the classroom and clinical setting.
-

College Requirements:

Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement **(1 course, 3 credits):**

One (1) Writing Intensive course in any discipline ~~from any category below~~ is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

Required Core (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major.

ENG 1200 Composition I (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course (3 crs.)

Life & Physical Sciences Course – **BIO 1100 – Anatomy and Physiology I (4 crs.)**~~*or~~

BIO 1200 – Anatomy and Physiology II (4 crs.)*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Flexible Core (3 Courses, 10 Credits):

The **two (2)** courses for a total of **six (6)** credits from Groups A to D, selected from these disciplines, Anthropology, Economics, History, Political Science, Psychology, or Sociology with **one (1) course per discipline**. **Group E is satisfied by course shown.**

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course

One (1) of the specified course from Group E:

- E. Scientific World Designated Course

BIO 1100 – Anatomy and Physiology I (4 crs.)*

BIO 1200 – Anatomy and Physiology II (4 crs.)*

*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

Major Requirements ~~(15 Courses, 48 Credits)~~ (13 Courses, 40 Credits):

BIO 1100 – Anatomy and Physiology I (4 crs.)*

BIO 1200 – Anatomy and Physiology II (4 crs.)*

BIO 5100 – Microbiology in Health and Disease (4 crs.)

PHI 7600 – Ethics and Morality in the Health Professions (3 crs.)

ST 100 – Surgical Technology I (3 crs.)

ST 200 Surgical Technology II (2 crs.)

ST 300 – Surgical Technology III (4 crs.)

ST 3P00 – Practicum I (2 crs.)

ST 400 – Surgical Procedures (3 crs.)

ST 4P00 – Practicum II (2 crs.)

ST 500 – Advanced Surgical Procedures (4 crs.)

ST 5P00 – Practicum III (3 crs.)

ST 600 – Professional Strategies for the Surgical Technologist (3 crs.)

ST 6P00 – Practicum IV (3 crs.)

ST 4500 – Surgical Pharmacology (3 crs.)

Electives:

2 credits sufficient to meet required total of 64 credits

TOTAL CREDITS: 64