

2012-2013

**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 A.S. degree will serve as a foundation for transfer to a senior or professional college, or, for accepting a position in the chosen field.

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

PROGRAMS

- Biology (with concentrations in Biotechnology, and Marine Biology, and transfer options in Health and Nutrition Science, Occupational Therapy, Pharmacy, Physician Assistant, and Secondary Education Teacher)
- Biotechnology
- Chemical Dependency Counseling
- Chemistry
- Community Health (with concentrations in Gerontology, Health Administration, Health Education and Promotion, and Substance Abuse Counseling)
- Computer Science
- Early Childhood Education/Child Care (with concentrations in Early Childhood/Child Care [Kindergarten- 6th grade] and Infancy/Toddler Development [birth - 2nd grade])
- Earth and Planetary Sciences
- Education Studies (with concentrations in Early Childhood and Childhood Education)
- Engineering Science
- Exercise Science/Personal Training
- Fine Arts (with concentrations in Art History, Ceramics, Drawing and Painting, Photography, and Sculpture)
- Journalism and Print Media
- Mathematics
- Mental Health and Human Services (with concentrations in Domestic Violence Counseling and Substance Abuse Counseling)
- Physics
- Science for Forensics
- Speech Communication (with concentrations in Speech Pathology and Communication Studies)
- Theatre Arts (with concentrations in Performance and Technical Production)

A.S. DEGREE PROGRAMS

Biology

Requirements, page 50

Course Descriptions, page 99

Biotechnology

Requirements, page 50

Course Descriptions, page 99

Chemical Dependency Counseling

Requirements, page 52

Course Descriptions, page 97

Chemistry

Requirements, page 52

Course Descriptions, page 158

Community Health

Requirements, page 53

Course Descriptions, page 129

Computer Science

Requirements, page 54

Course Descriptions, page 146

Early Childhood Education / Child Care

Requirements, page 54

Course Descriptions, page 91

Earth and Planetary Sciences

Requirements, page 55

Course Descriptions, page 159

Education Studies

Requirements, page 56

Course Descriptions, page 91

Engineering Science

Requirements, page 56

Course Descriptions, page 150

Exercise Science/Personal Training

Requirements, page 57

Course Descriptions, page 130

Fine Arts

Requirements, page 58

Course Descriptions, page 87

Journalism and Print Media

Requirements, page 59

Course Descriptions, page 124

Mathematics

Requirements, page 59

Course Descriptions, page 146

Mental Health and Human Services

Requirements, page 60

Course Descriptions, page 95

Physics

Requirements, page 61

Course Descriptions, page 160

Science for Forensics

Requirements, page 61

Course Descriptions, page 158

Speech Communication

Requirements, page 62

Course Descriptions, page 116

Theatre Arts

Requirements, page 63

Course Descriptions, page 118

A.S. BIOLOGY

DEPARTMENT: Biological Sciences

TOTAL CREDITS: 60—64

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200.....	3 credits
ENG 2400.....	3
HE 1400.....	1

DEPARTMENT REQUIREMENTS §

General Biology I and II (BIO 1300 and BIO 1400).....8 credits
 General Chemistry I and II (CHM 1100 and CHM 1200)8
 Analytic Geometry and Pre-Calculus Math (MAT 1400)

or FOR OCCUPATIONAL THERAPY or PHYSICIAN ASSISTANT TRANSFER OPTIONS:

Elements of Statistics (MAT 2000)3 - 4

Introduction to Computer and Computer Applications (CP 1100) or Applications in Bioinformatics (BIO/CIS 6000)3 - 4

Any Biology Laboratory Courses (excluding BIO 700-1100-1200, BIO 3300 and BIO 5100)8

To fulfill the above requirement in Biology electives for the following options:

CONCENTRATION IN BIOTECHNOLOGY

General Microbiology (BIO 5000) and Genetics (5900)

CONCENTRATION IN MARINE BIOLOGY

Marine Biology (BIO 5200) and any one of the following: BIO 2100, 2200, 5000, 5300, 5400, 5500 or 5900

TRANSFER TO THE B.S. IN HEALTH AND NUTRITION SCIENCE OFFERED BY BROOKLYN COLLEGE:

Research Methods in Nutrition Science (BIO 6100)2 credits
 Human Physiology (BIO 8267).....4

OCCUPATIONAL THERAPY TRANSFER OPTION

Human Anatomy and Physiology I and II (BIO 1100 and BIO 1200)

COMPLETION OF 40 HOURS OF VOLUNTEER OR PAID EXPERIENCE IN OCCUPATIONAL THERAPY FACILITY APPROVED, IN ADVANCE BY THE BIOLOGICAL SCIENCES DEPARTMENT PROGRAM COORDINATOR.

PHARMACY TRANSFER OPTION

Human Anatomy and Physiology I and II (BIO 1100 and BIO 1200)

PHYSICIAN ASSISTANT TRANSFER OPTION

Human Anatomy and Physiology I and II (BIO 1100 and BIO 1200)

COMPLETION OF VOLUNTEER PROGRAM CONCERNED WITH DIRECT PATIENT CARE AT LEAST ONE YEAR BEFORE TRANSFER INTO A BACCALAUREATE PROGRAM LEADING TO CERTIFICATION AS A PHYSICIAN ASSISTANT.

Courses must be discussed in advance with Department Advisor. Specific recommendations for group distribution courses or electives are dependent upon the requirements of particular occupational therapy or pharmacy programs to which the student may wish to apply for transfer.

GENERAL EDUCATION REQUIREMENTS — 9 credits

A minimum of 3 credits in each Group A and B and 3 credits in either Group A or B in a different discipline. Group C is satisfied by department requirements.

Group A: ARTS and HUMANITIES.....3-6 credits

TRANSFER OPTION TO B.S. IN HEALTH AND NUTRITION SCIENCE (BROOKLYN COLLEGE):

ENG 3000 or 4000 or PHI 7100 or 7200

ALL OTHER CONCENTRATIONS OR OPTIONS:

Select a course from the following disciplines: *Art - Foreign Language - Literature - Film and Media Studies - Music - Speech - Theatre Arts - Philosophy*

Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES3-6 credits

TRANSFER OPTION TO B.S. IN HEALTH AND NUTRITION SCIENCE (BROOKLYN COLLEGE):

- Introduction to Anthropology (ANT 3700) or General Psychology (PSY 1100)
- Europe: Napoleon to Hitler, 1789 to 1945 (HIS 3100) or The Ancient World (HIS 5100)

PHYSICIAN ASSISTANT TRANSFER OPTION:

General Psychology (PSY 1100) and Human Growth and Development (PSY 3200)

SECONDARY EDUCATION TEACHER TRANSFER OPTION:

Educational Psychology (PSY 3500)

ALL OTHER OPTIONS:

Any course(s) selected from the following disciplines: *Anthropology - Economics - History - Political Science - Psychology - Sociology*

Group C: MATHEMATICS and SCIENCES
Satisfied by Department Requirements

ELECTIVES: Sufficient to meet required total of 60 credits

FOR THE CONCENTRATION IN BIOTECHNOLOGY:

- Biotechnology: Cell Culture and Cloning (BIO 5700).....4
- Recombinant DNA Technology (BIO 5800)4

FOR TRANSFER TO THE B.S. IN HEALTH AND NUTRITION SCIENCE OFFERED BY BROOKLYN COLLEGE:

- Chemistry for Nutritional Sciences (CHM 500).....5
- Introduction to Community Health Services (COH 1100).....3
- Critical Issues in Community Health (COH 1200).....3
- Introductory Foods: Principles and Preparation (COH 8210)3

PHARMACY TRANSFER OPTION:

- Organic Chemistry I and II (CHM 3100 **and** CHM 3200)... 10
- Calculus (MAT 1500) 4
- General Physics I (PHY 1100) *recommended* 4

PHYSICIAN ASSISTANT TRANSFER OPTION:

- Microbiology in Health and Disease (BIO 5100)..... 4
- Science of Nutrition (BIO 7000) 3
- Cardiopulmonary Resuscitation (HE 2000)..... 1
- Emergency Health Care (NUR 4100)..... 2
- Organic Chemistry I and II (CHM 3100 **and** CHM 3200)... 10

§ Consultation with the Department Advisor is required.
 + Prerequisites must be satisfied or additional credits may be required.



A.S. BIOTECHNOLOGY

DEPARTMENT: Biological Sciences

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W".

Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

- ENG 12004
- ENG 24003
- HE 14001

DEPARTMENT REQUIREMENTS §

- +General Biology I and II (BIO 1300 **and** BIO 1400).....8 credits
- +General Microbiology (BIO 5000)
 - or** +Genetics (BIO 5900).....4
- +Recombinant DNA Technology (BIO 5800)
 - or** +Cell Culture and Cloning (BIO 5700)4
- +Molecular and Cellular Biology (BIO 6500)4
- +General Chemistry I and II (CHM 1100 **and** CHM 1200).....8
- +Applications in Bioinformatics (BIO/CIS 6000).....3

GENERAL EDUCATION REQUIREMENTS — 16 credits

Nine (9) credits from Groups A and B (a minimum of three (3) credits from each group plus three (3) more credits in another discipline from either Group A or B) plus seven (7) credits from Group C.

Group A: ARTS AND HUMANITIES.....3 – 6 credits

- Art - Foreign Language - Literature - Media & Film Studies - Music - Philosophy - Speech - Theatre Arts*
- Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES3 – 6 credits

- Anthropology – Economics - History - Political ...Science - Psychology – Sociology*

Group C: MATHEMATICS AND SCIENCES7 credits

College Algebra (MAT 900) and Biostatistics (BIO/MAT 9100) are required.

Laboratory Science is satisfied by Department requirements.

ELECTIVES: 6 credits sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required.
 + Prerequisites must be satisfied or additional credits may be required.

A.S. CHEMICAL DEPENDENCY COUNSELING

DEPARTMENT: Behavioral Sciences and Human Services

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W".

Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS

Introduction to Substance Abuse Counseling (SAC 2000)	3 credits
Basic Techniques in Substance Abuse Counseling I (SAC 2200)	3
Basic Techniques in Substance Abuse Counseling II (SAC 2400)	3
Ethics, Confidentiality, & Counselor/Client Relationship (SAC 2600)	3
Treatment Approaches in Substance Abuse (SAC 2800)	3
Supervised Instructional Experience in Substance Abuse Counseling (SAC 91A0/B).....	7

GENERAL EDUCATION REQUIREMENTS

Group A: ARTS AND HUMANITIES.....3 credits
Art - Foreign Language - Literature - Film and Media Studies - Music - Philosophy - Speech - Theatre Arts
 Excluded are Art Studio, Music Studio, Theatre Production & Technique Courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES
 General Psychology (PSY 1100).....3 credits
 Human Growth and Development (PSY 3200).....3
 Abnormal Psychology (PSY 3600)

Group C: MATHEMATICS AND SCIENCES7 - 8 credits
 One Mathematics course
 One Laboratory Science course selected from:
Biology – Chemistry – Earth & Planetary Science – Physics

***ELECTIVES:** 6 credits sufficient to meet required total of 60 credits

*The following course is recommended for the purpose of earning OASAS credential in: Compulsive Gambling: Treatment and Prevention (SAC 3000)4 credits

§ Consultation with the Department Advisor is required.

A.S. CHEMISTRY

DEPARTMENT: Physical Sciences

TOTAL CREDITS: 60—64

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

General Chemistry I and II (CHM 1100 and CHM 1200)	8 credits
Organic Chemistry I and II (CHM 3100 and CHM 3200).....	10
Advanced General Physics I and II (PHY 1300 and PHY 1400)	8
Calculus I and II (MAT 1500 and MAT 1600)	8

GENERAL EDUCATION REQUIREMENTS — 9 credits

A minimum of 3 credits in Group A, 3 credits in Group B, and 3 credits from either Group A or B in a different discipline. Group C is satisfied by department requirements.

Group A: ARTS AND HUMANITIES3 - 6 credits
Art - Foreign Language – Film and Media Studies – Literature – Music - Philosophy - Speech - Theatre Arts
 Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES3 - 6 credits
Anthropology - Economics - History - Political Science - Psychology - Sociology

Group C: MATHEMATICS AND SCIENCES
Satisfied by Department Requirements

ELECTIVES — 10 credits sufficient to meet required total of 60 credits

§ Consultation with Department Advisor is required.

A.S. COMMUNITY HEALTH

DEPARTMENT: Health, Physical Education and Recreation

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3

DEPARTMENT REQUIREMENTS

ALL Majors must take:

Concepts of Wellness (HPE 1200)	3 credits
Introduction to Community Health (COH 1100)	3
Critical Issues in Community Health (COH 1200)	3
Principles of Epidemiology (COH 1300)	3
Community Health Interventions (COH 2000)	3
Introduction to Computer Concepts (BA 6000)	
or Office Computer Applications (TEC 2500)*	
or Introduction to Computers and Computer Applications (CP 1100)	3-4*

Plus, select ONE of the following options:

GERONTOLOGY

Introduction to Gerontology (MH 3500)	3 credits
Therapeutic Recreation for Individuals with Disabilities I or II (RPE 3100 or RPE 3500)	3
Perspectives on Death and Dying (NUR 4300)	3

HEALTH ADMINISTRATION

Fundamentals of Business (BA 1100)	3 credits
Organizational Behavior and Management (BA 3100)	3
Macroeconomics (ECO 1200) or Microeconomics (ECO 1300)	3

HEALTH EDUCATION AND PROMOTION

Two of the following four courses:	6 credits
Women's Health Issues (HE 3800)	
Drugs: The Individual and Society (HE 4000)	
Nutrition and Health (HE 4200)	
Human Sexuality (HE 5200)	
Field Experience in Community Health (COH 91E1)	3

SUBSTANCE ABUSE COUNSELING

Introduction to Alcoholism and Substance Abuse Counseling (SAC 2000)	3 credits
Basic Counseling Techniques in Substance Abuse	
Field I (SAC 2200)	3
Confidentiality, Ethics and the Counselor/Client Relationship in Substance Abuse Counseling (SAC 2600)	3

GENERAL EDUCATION REQUIREMENTS:

For **HEALTH ADMINISTRATION CONCENTRATION**, 9 credits should be selected from Group A **plus** ECO 1200 **or** 1300 from Group B.

All other concentrations choose nine (9) credits from Group A and Group B (a minimum of three (3) credits from each group plus three (3) more credits in another discipline from either Group A or Group B) plus 7-8 credits from Group C. Choose courses in consultation with a faculty advisor so that courses chosen transfer well to baccalaureate programs.

Group A: ARTS AND HUMANITIES.....3 – 9 credits

Art - Foreign Language - Literature – Media and Film Studies - Music - Philosophy - Speech - Theatre Arts
Excluded are Art studio, Music studio, Theatre production & skills courses

For **HEALTH ADMINISTRATION CONCENTRATION:**

Select 9 credits, each course from a different discipline with the exception of a Foreign Language in which two semesters of the same language may be taken. For all other concentrations or options, select 3 – 6 credits.

Recommended Courses:

- The Visual Experience (ART 3100),
 or The Musical Experience (MUS 3100),
 or Effective Public Speaking (SPE 2100),
 or Introduction to Theatre Arts (THA 5000)
- Ethics: A Study of Ethical Problems (PHI 7400) **or** Ethics and Morality in the Health Professions (PHI 7600)

Group B: BEHAVIORAL AND SOCIAL SCIENCES12 – 15 credits

NOTE: PSY 1100, PSY 3200 and SOC 3100 are required for all concentrations.

For **HEALTH ADMINISTRATION CONCENTRATION:**

ECO 1200 or ECO 1300 required.

ALL OTHER CONCENTRATIONS OR OPTIONS:

Select 3 – 6 credits from among the following disciplines:
Economics - History - Political Science

Group C: MATHEMATICS AND SCIENCES7 – 8 credits

- A Mathematics course (e.g., MAT 700 **or** MAT 900 **or** MAT 2000)
- NOTE: MAT 2000 preferred for **HEALTH ADMINISTRATION CONCENTRATION.**
- A laboratory course in Biological Sciences (e.g., BIO 1100, BIO 1300, or BIO 3300)

* Students who demonstrate proficiency in computer concepts may request permission from the Program Directors to complete 3 credits in Health Education instead.

A.S. COMPUTER SCIENCE

DEPARTMENT: Mathematics and Computer Sciences

TOTAL CREDITS: 60—64

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

Introduction to Computing (CS 1200)	4 credits
Advanced Programming Techniques (CS 13A0)	4
Computer and Assembly Language Programming (CS 1400)	5
Discreet Structures (CS 3500)	5
+Calculus I, II and III (MAT 1500 and MAT 1600 and MAT 2100)	12
Linear Algebra (MAT 5600)	4
Biostatistics (MAT/BIO 9100) or	
Business Statistics (MAT/BUS 2200)	4
Differential Equations (MAT 5500)	3

GENERAL EDUCATION REQUIREMENTS — 13 Credits

Nine (9) credits from Groups A and B (a minimum of three (3) credits from each group plus three (3) more credits in another discipline from either Group) plus four (4) credits from Group C.

Group A: ARTS AND HUMANITIES.....3 – 6 credits

Art - Foreign Language - Literature - Media and Film Studies - Music - Philosophy - Speech - Theatre Arts
Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES.....3 – 6 credits

Anthropology - Economics - History - Political Science - Psychology - Sociology

Group C: MATHEMATICS AND SCIENCES4 credits

One Laboratory Science course selected from:
Biology - Chemistry - Earth & Planetary Science - Physics
NOTE: *Mathematics satisfied by Department Requirements.*

ELECTIVES: 0–4 sufficient to meet required total of 60–64 credits

§ Consultation with the Department Advisor is required.

+ Prerequisites must be met. Additional credits may be required.

A.S. EARLY CHILDHOOD EDUCATION / CHILD CARE

DEPARTMENT: Behavioral Sciences and Human Services

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

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

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1



DEPARTMENT REQUIREMENTS §

ALL Majors must take:

Foundations of Education (EDC 2000).....	3
Social Science in Education (EDC 2100)	3
Art Workshop in Education (EDC 2200).....	2
Music and Movement Workshop in Education (EDC 2300).....	2
Techniques in Math, Science and Technology Teaching for Early Childhood Ed. (EDC 2800)	2
Supervised Instructional Experience in Education II (EDC 9300)	3
Early Literacy and Children’s Literature (HUM 200)	2

Choose one of the following options:

EARLY CHILDHOOD EDUCATION/CHILDCARE

Supervised Instructional Experience in Education I (EDC 9105)	3
Seminar and Practicum in Education (EDC 3000).....	3

INFANCY/TODDLER DEVELOPMENT

Infant/Toddler Development (EDC 3200).....	3
Supervised Instructional Experience in Infant/Toddler Education (EDC 9400)	3

GENERAL EDUCATION REQUIREMENTS — 25–26 credits

Group A: ARTS AND HUMANITIES.....3 credits

Art - Foreign Language – Film and Media Studies – Literature – Music - Philosophy - Speech - Theatre Arts
Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES

General Psychology (PSY 1100).....3 credits
Psychological Disorders in Young Children (PSY 2400)
or for transfer to The College of Staten Island:
Historical Geography (HIS 7000).....3
Human Growth and Development (PSY 3200).....3
Introduction to Sociology (SOC 3100) **or** Introduction to
Anthropology (ANT 3700).....3
One course in History or Political Science

Group C — MATHEMATICS AND SCIENCES.....7 - 8 credits

One Mathematics course
One Laboratory Science course selected from:
Biology – Chemistry – Earth & Planetary Science – Physics

ELECTIVES: 4 - 5 credits sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required.

A.S. EARTH AND PLANETARY SCIENCES

DEPARTMENT: Physical Sciences

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated **“W”**. Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200.....	3 credits
ENG 2400	3
HE 1400.....	1

DEPARTMENT REQUIREMENTS §

ALL Majors must take:

Introduction to Earth Science (EPS 3600)	4 credits
General Chemistry I (CHM 1100).....	4
General Physics I (PHY 1100)	4
Calculus I (MAT 1500)*.....	4
Calculus II (MAT 1600).....	4
Physical Geology (EPS 3300).....	4
Meteorology (EPS 3100)	4
Oceanography (EPS 3200).....	4
Astronomy (EPS 3500).....	4
Planetology (EPS 3800)	4

GENERAL EDUCATION REQUIREMENTS — 12 credits

Group A: ARTS AND HUMANITIES.....6 credits

Art - Foreign Language – Media & Film Studies – Literature – Music - Philosophy - Speech - Theatre Arts
Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES6 credits

Anthropology - Economics - History – Political Science - Psychology - Sociology

Group C — MATHEMATICS AND SCIENCES.....Satisfied by Department Requirements

ELECTIVES: (1 credit) sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required.

* Prerequisites must be met or additional credits will be required.

A.S. EDUCATION STUDIES

DEPARTMENT: Behavioral Sciences and Human Services

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 01200	3 credits
ENG 02400	3
HE 01400	1

DEPARTMENT REQUIREMENTS §

Foundations of Education (EDC 2000)	3 credits
Art Workshop in Education (EDC 2200)	2
Music & Movement Workshop in Education (EDC 2300)	2
Practicum in Teacher Development I (EDC 90A4) *	3
Development of Literacy in Children (HUM 8181)	1

CONCENTRATION IN EARLY CHILDHOOD EDUCATION (BIRTH – 2ND GRADE)

Social Sciences in Education (EDC 2100)	3
Liberal Arts (Groups A-C) Electives	3

CONCENTRATION IN CHILDHOOD EDUCATION (KINDERGARTEN – 6TH GRADE)

Social Science in Childhood Education (EDC 3100)	3
Urban Sociology (SOC 3200)	3

GENERAL EDUCATION REQUIREMENTS — 33 credits

This program is jointly registered with Brooklyn College's B.A. in Early Childhood Education. To satisfy Brooklyn Core Equivalencies, courses must be carefully selected with an Education Studies Faculty Advisor.

Group A: ARTS AND HUMANITIES

Any non-studio Art or Music course

3 credits

Group B: BEHAVIORAL AND SOCIAL SCIENCES

PSY 1100, PSY 2400, PSY 3200 **and** SOC 3100 **and**

One course from each discipline: *History – Political Science*

Group C: MATHEMATICS AND SCIENCES

MAT 700 and choice of BIO 3300 **or** SCI 3400

Plus choice of EPS 3100 **or** 3200 **or** 3300 **or** 3600

or 3800 **or** SCI 2500 **or** SCI 3700

ELECTIVES: 3 credits sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required and students must meet jointly registered program's requirements.

* Students must enroll in practicum appropriate to the grade level they wish to teach.

A.S. ENGINEERING SCIENCE

DEPARTMENT: Physical Sciences

TOTAL CREDITS: 66-70

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

General Chemistry I and II (CHM 1100 and CHM 1200)	8 credits
+Calculus I, II and III (MAT 1500 and MAT 1600 and MAT 2100)	12
Differential Equations (MAT 5500)	3
Linear Algebra (MAT 5600)	4
Introduction to Computing (CS 1200)	4
Advanced General Physics I and II (PHY 1300 and PHY 1400)	8
Engineering Design (EGR 2100)	3
Introduction to Electrical Engineering (EGR 2200)	3
Introduction to Engineering Thermodynamics (EGR 2300)	3

GENERAL EDUCATION REQUIREMENTS — 9 credits

A minimum of three (3) credits from Group A, three (3) credits from Group B, and 3 credits from either Group A or Group B in a different discipline. Credits from Group C satisfied by department requirements.

Group A: ARTS AND HUMANITIES

Art – Foreign Language – Literature – Media & Film

Studies – Music – Philosophy – Speech – Theatre Arts

Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES

Anthropology – Economics – History – Political Science –

Psychology – Sociology

Group C — MATHEMATICS AND SCIENCES

Satisfied by Department Requirements

ELECTIVES: 3 – 6 sufficient to satisfy total of 66 – 70 credits

§ Consultation with the Department Advisor is required.

• This program is within the Physical Sciences Department.

+ Prerequisites must be met or additional credits may be required.

A.S. EXERCISE SCIENCE / PERSONAL TRAINING

DEPARTMENT: Health, Physical Education and Recreation

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

Introduction to Personal Training (EXS 900).....	3 credits
Kinesiology of Exercise (EXS 1000)	3
Physiology of Exercise (EXS 1100)	3
Health Risk Appraisal (EXS 1200)	3
Fitness Assessment and Program Design (EXS 1300)	3
Muscular Fitness Training Techniques (EXS 1500)	3
Field Experience in Exercise Science (EXS 91X6)	3
First Aid and Personal Safety (HE 3500)	2
Cardiopulmonary Resuscitation (HE 2000)	1

Choose one from each of the following groups for 3 credits: ...3

Group I

- Walk, Jog, Run (PEC 200)
- Aerobic Dance (PEC 1900)

Group II

- Swimming for Fitness (PEC 3300)
- Aqua Exercise (PEC 6500)
- Swimming for Non-Swimmers and Beginners (PEC 3000)

Group III

- Tai Chi Chuan (PEC 2500)
- Introduction to Hatha Yoga (PEC 2900)
- Pilates System of Exercise (PEC 5600)
- Beginning Karate and Self-Defense (PEC 2700)
- Personal Self-Defense for Women (PEW 2100)

GENERAL EDUCATION REQUIREMENTS

A minimum of six (6) from Group A, six (6) from Group B and fourteen (14) from Group C.

Group A: ARTS AND HUMANITIES6 credits

Art - Film and Media Studies - Foreign Language - Literature Music - Philosophy - Speech - Theatre Arts
 Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES6 credits

PSY 1100
 Plus a second course selected from:
Anthropology - Economics - History - Political Science - Sociology

Group C: MATHEMATICS AND SCIENCES14 credits

MAT 700 **or** MAT 900 **or** MAT 2000
 Human Anatomy and Physiology I and II (BIO 1100 **and** BIO 1200)
 Science of Nutrition (BIO 7000)

§ Consultation with the Department Advisor is required.



A.S. FINE ARTS

DEPARTMENT: Art

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

ALL majors must take:

Survey of Art History I and II (ART 3300 and ART 3400)....	6 credits
Design I (ART 5500)	3
Drawing I (ART 5700)	3

PLUS ONE OF THE FOLLOWING CONCENTRATIONS:

ART HISTORY

Modern Art I and II (ART 3500 and ART 3600).....	6 credits
Renaissance Art (ART 3800)	3
Recommended Electives	9

CERAMICS

Ceramics I (ART 6300)	3
Ceramics II (ART 6400)	3
Ceramics Sculpture (ART 8000).....	3
Recommended Electives	7-9

DRAWING AND PAINTING

Drawing II (ART 5800)	3
Painting I and II (ART 5900 and ART 6000).....	7
Recommended Electives	7-9

PHOTOGRAPHY

Photography I (ART 5100)	3
Photography II (ART 5200)	3
The Art of Digital Photography (ART 9400).....	3
Recommended Electives	6

SCULPTURE

Sculpture I and II (ART 6100 and ART 6200)	7
Figure Modeling (ART 8300)	3
Recommended Electives	7-9

GENERAL EDUCATION REQUIREMENTS19 – 20 credits

Group A: ARTS AND HUMANITIES6 credits

Foreign Language – Literature – Media & Film Studies – Music – Philosophy – Speech – Theatre Arts

Excluded are all Art courses, also Music studio and Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES6 credits

Anthropology – Economics – History – Political Science – Psychology – Sociology

Group C: MATHEMATICS AND SCIENCES7 - 8 credits

- One Mathematics course
- One Laboratory Science course selected from:
Biology – Chemistry – Earth & Planetary Sciences – Physics

ELECTIVES: (2– 7 credits) sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required.



A.S. JOURNALISM AND PRINT MEDIA

DEPARTMENT: English

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

Journalism: Basic and Advanced (JRL 3100 and JRL 3200).....6 credits
 Feature and Magazine Writing (JRL 4400).....3

GENERAL EDUCATION REQUIREMENTS — 32–37 credits

Students who choose to complete this program are required to take the following courses:

Group A: ARTS AND HUMANITIES

ART 7300 or ART 7400 or SPE 2100.....	3
**Foreign Language I and/or II (or Philosophy elective if exempt from Foreign Language).....	9-14
Two (2) courses in English Literature (ENG 3000 and ENG 4000 recommended)	

Group B: BEHAVIORAL AND SOCIAL SCIENCES

HIS 1100 or HIS 3100 and POL 5100	6
PSY 1100 and SOC 3100	6

Group C: MATHEMATICS AND SCIENCES

MAT 700.....	4
One Laboratory Science course selected from:.....	4
<i>Biology – Chemistry – Earth & Planetary Science – Physics</i>	

ELECTIVES: 7–12 credits sufficient to meet required total of 60 credits

- This program is within the English Department.
- § Consultation with the Program Advisor is required.
- ** Minimum of 1 semester of Foreign Language must be taken unless exempt based on Foreign Language Proficiency, High School Regents Exams, CLEP or other proficiency exams. English electives must be selected in consultation with Program Advisor.

A.S. MATHEMATICS

DEPARTMENT: Mathematics and Computer Sciences

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400.....	1

DEPARTMENT REQUIREMENTS §

+Calculus I, II and III (MAT 1500, MAT 1600, and MAT 2100)12 credits
 Differential Equations (MAT 5500)3
 Biostatistics (MAT/BIO 9100) or
 Business Statistics (MAT/BUS 2200)4
 Discrete Structures (CS 3500).....5
 Linear Algebra (MAT 5600)3
 Introduction to Computing (CS 1200)4
Choose two courses from: CS 13A0 or CS 1400 or MAT 1100.....8

GENERAL EDUCATION REQUIREMENTS — 9 credits

A minimum of three (3) credits in Group A, three (3) credits in Group B, and three (3) credits from either Group A or Group B in a different discipline. Credits in Group C satisfied by department requirements.

Group A: ARTS AND HUMANITIES3 - 6 credits
Art – Foreign Language – Literature – Film and Media Studies – Music – Philosophy – Speech – Theatre Arts
 Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: SOCIAL SCIENCES.....3 - 6 credits
Anthropology – Economics – History – Political Science – Psychology – Sociology

Group C: MATHEMATICS AND SCIENCES
 One Laboratory Science course selected from:.....4
Biology – Chemistry – Earth & Planetary Science – Physics

ELECTIVES: 1 credit sufficient to meet the required total of 60 credits

- § Consultation with the Department Advisor is required.
- + Prerequisites must be met or additional credits may be required.

A.S. MENTAL HEALTH AND HUMAN SERVICES

DEPARTMENT: Behavioral Sciences and Human Services

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

ALL Majors must take:

Introduction to Human Services (MH 1100)	3
Human Services Organizations (MH 3000)	3
Supervised Instructional Experience in Mental Health (MH 9801 and MH 9802)	6

PLUS, FOR MENTAL HEALTH AND HUMAN SERVICES

MAJORS (without concentration)

Any Sociology or Psychology elective or ANT 3700 or ANT 3900 or SAC 2000	3
Principles of Interviewing and Group Leadership (MH 3100)	3
Mental Health Practices with Vulnerable Populations (MH 3400)	3
Introduction to Gerontology (MH 3500)	3

PLUS, FOR MAJORS WITH CONCENTRATION IN SUBSTANCE ABUSE COUNSELING

Introduction to Alcoholism and Substance Abuse Counseling (SAC 2000)	3
Basic Counseling Techniques in Substance Abuse Field I (SAC 2200)	3
Confidentiality, Ethics & Counselor/Client Relationship in Substance Abuse Counseling (SAC 2600)	3
Principles of Interviewing and Group Leadership (MH 3100)	3

PLUS, FOR MAJORS WITH DOMESTIC VIOLENCE COUNSELING

Introduction to Domestic Violence (MH 3700)	3
Assessment and Intervention with Domestic Violence Survivors (MH 3800)	3
Introduction to Gerontology (MH 3500)	3
Any Sociology, Anthropology or Psychology elective (including PSY 3700)	3

GENERAL EDUCATION REQUIREMENTS — 25–26 credits

Group A — ARTS AND HUMANITIES3 credits
Art – Foreign Language – Film and Media Studies – Literature – Music – Philosophy – Speech – Theatre Arts
 Excluded are Art Studio, Music Studio, Theatre Production & Technique Courses

Group B — BEHAVIORAL AND SOCIAL SCIENCES
 General Psychology (PSY 1100).....3 credits
 Human Growth and Development (PSY 3200).....3
 Abnormal Psychology (PSY 3600)3
 Introduction to Sociology (SOC 3100)3
 Select one course from: *Economics – History – Political Science*3

Group C — MATHEMATICS AND SCIENCES.....7 - 8 credits
 One Mathematics course
 One Laboratory Science course selected from:
Biology – Chemistry – Earth & Planetary Science – Physics

ELECTIVES: 3 - 4 credits sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required.

A.S. PHYSICS

DEPARTMENT: Physical Sciences

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

Advanced General Physics I and II
(PHY 1300 **and** PHY 1400).....8 credits
Advanced Electives, choose: 8 – 11
Either MAT 5500 or MAT 5600 (*choose only one*)
or Either EGR 2200 or EGR 2300 (*choose only one*)
or Either EPS 3300 or EPS 3500 or EPS 3600 (*choose only one*)
or Physics 081xx1-3 credits
General Chemistry I and II (CHM 1100 **and** CHM 1200).....8
+Calculus I and II (MAT 1500 **and** MAT 1600).....8

GENERAL EDUCATION REQUIREMENTS — 9 credits

A minimum of three (3) credits in Group A, three (3) credits in Group B, and three (3) credits from either Group A or Group B in a different discipline. Credits from Group C satisfied by department requirements.

Group A: ARTS AND HUMANITIES3 - 6 credits
Art - Foreign Language - Literature – Film and Media Studies
Music - Philosophy - Speech - Theatre Arts
Excluded are Art studio, Music studio, Theatre production & skills courses

Group B: BEHAVIORAL AND SOCIAL SCIENCES.....3 - 6 credits
Anthropology - Economics - History – Political Science - Psychology - Sociology

Group C — MATHEMATICS AND SCIENCES
Satisfied by Department Requirements

ELECTIVES: 9 to 12 credits sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required.
+ Prerequisites must be met or additional credits may be required.

A.S. SCIENCE FOR FORENSICS

DEPARTMENT: Physical Sciences

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS §

A cumulative grade point average of 2.5 is required in the following 34 credits of science:

General Biology I <u>and</u> II (BIO 1300 and 1400)	8
General Chemistry I <u>and</u> II (CHM 1100 and 1200)	8
Organic Chemistry I <u>and</u> II (CHM 3100 and 3200)	10
Advance General Physics I <u>and</u> II (PHY 1300 and 1400)	8

The following are also required and additional credits may be necessary in order to satisfy prerequisites:
Calculus I and II (MAT 1500 **and** 1600)*8 credits

GENERAL EDUCATION REQUIREMENTS — 9 credits

The following courses reflect the joint registration of this program with the B.S. in Forensic Science offered by John Jay College of Criminal Justice. Students select one course from Group A **and** one course from Group B **and** a third course from either Group A or B.

Group A: ARTS AND HUMANITIES3 - 6 credits
Select one or two courses from the following:
ENG 3200 **or** ENG 3500 **or** PHI 7100 **or** PHI 7200

Group B: BEHAVIORAL AND SOCIAL SCIENCES.....3 - 6 credits
Select one or two courses from the following:
HIS 3100 **or** HIS 5200 **or** ANT 3700
or PSY 1100 **or** SOC 3100

Group C — MATHEMATICS AND SCIENCES
Satisfied by Department Requirements

ELECTIVES: 2 credits sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required.
* Prerequisites must be met or additional credits may be required.

A.S. SPEECH COMMUNICATION

DEPARTMENT: Communications and Performing Arts

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS

ALL Majors must take:

Career Communication (SPE 2400)	3 credits
Small Group Communication (SPE 2500)	3
Oral Interpretation (SPE 2700)	3
Voice & Articulation (SPE 2900)	3

COMMUNICATION STUDIES CONCENTRATION:

Interpersonal Communication (SPE 1200)	3
Effective Public Speaking (SPE 2100)	3
Intercultural Communication (SPE 2600)	3

SPEECH PATHOLOGY CONCENTRATION:

Phonetics (SPE 4000)	3
Interpersonal Communication (SPE 1200) or	3
Intercultural Communication (SPE 2600)	
Language Development (SPE 4100)	4

GENERAL EDUCATION REQUIREMENTS — Minimum of 23 credits

Group A — ARTS AND HUMANITIES

Foreign Language - Literature - Philosophy 4 - 6 credits

Group B — BEHAVIORAL AND SOCIAL SCIENCES

Anthropology - Psychology - Sociology 6 credits
Economics - History - Political Science 6 credits

Group C — MATHEMATICS AND SCIENCES.....7 - 8 credits

One Mathematics course
 One Laboratory Science course selected from:
Biology - Chemistry - Earth & Planetary Science - Physics

ELECTIVES:

COMMUNICATION STUDIES CONCENTRATION:

6 - 9 credits sufficient to meet required total of 60 credits

SPEECH PATHOLOGY CONCENTRATION:

5 - 8 credits sufficient to meet required total of 60 credits

§ Consultation with Department Advisor is required.



A.S. THEATRE ARTS

DEPARTMENT: Communications and Performing Arts

TOTAL CREDITS: 60

Requirements for Matriculants

COLLEGE REQUIREMENTS

Passing scores on the CUNY-wide in reading, writing, and math skills tests or developmental courses may be required.

One (1) Writing Intensive course in any discipline from any category below is required. Such courses are designated "W". Participation in a Learning Community that includes ENG 12 also satisfies this requirement.

ENG 1200	3 credits
ENG 2400	3
HE 1400	1

DEPARTMENT REQUIREMENTS§

All Theatre Arts MAJORS must take:

Introduction to Theatre Arts (THA 5000)	3 credits
Play Analysis (THA 5100)	3
Acting I: Beginning Acting (THA 5200)	3
Stage Craft (THA 5500)	3
History of Theatre (THA 6800)	3
Play Production (THA 5900)	1
<i>(must repeat for a total of 3 credits)</i>	

Choose **two** courses from the following Program

Electives:	6 credits
THA 4600, 5300, 5500, 5800, 6000, 6300, 6500, 5700, 81xx;	
MUS 3000, 3100, 4800, 9121;	
SPE 2700, 2900;	
PEC 2000, 3800, 3900;	
ART 3300	

PLUS, select one of the following concentrations.....6 credits

PERFORMANCE CONCENTRATION:

Select **two** courses:

Acting II: Scene Study (THA 5300).....	3 credits
Directing: The Fundamentals (THA 6600)	3
Musical Theatre Performance (THA 5800).....	3
Training the Performing Voice (THA 4600)	3

TECHNICAL PRODUCTION CONCENTRATION:

Select **two** courses:

Basic Lighting (THA 5600).....	3
Costume Design (THA 6000).....	3
Scenic Design (THA 6500)	3
Basic Sound Technology (THA 6300).....	3

GENERAL EDUCATION REQUIREMENTS— 19–20 credits

Group A: ARTS AND HUMANITIES.....6 credits
 Select from *Foreign Language – Literature – Philosophy*
 NOTE: *The Arts satisfied by Department Requirements.*

Group B: BEHAVIORAL AND SOCIAL SCIENCES.....6 credits
Anthropology – Economics (excluding ECO 1400) - History – Political Science – Psychology - Sociology

Group C: MATHEMATICS AND SCIENCES7 – 8 credits
 One Mathematics course
 One Laboratory Science course selected from:
Biology – Chemistry – Earth & Planetary Science – Physics

ELECTIVES: 3–4 sufficient to meet required total of 60 credits

§ Consultation with the Department Advisor is required.

