**FACULTY SENATE**

**CURRICULUM**

**OCTOBER 15, 2020**

**AIII. DEGREE REQUIREMENTS**

AIII.1 SCHOOL OF BUSINESS: BUSINESS BS AND MHC BUSINESS MS

**AIV: NEW COURSES**

AIV. 1 PROGRAM IN ELECTRICAL ENGINEERING: ELE 756 SMART GRID

AIV.2 PROGRAM IN ELECTRICAL ENGINEERING: ELE 746 POWER ELECTRONICS AND INSTRUMENTATION

AIV 3. DEPARTMENT OF HISTORY: HST 130 U.S. HISTORY TO 1865

AIV 4. DEPARTMENT OF HISTORY: HST 131 U.S. HISTORY SINCE 1865

**AV: CHANGE IN EXISTING COURSES:**

AV.1 DEPARTMENT OF PHYSICS & ASTRONOMY: PHY 110 COLLEGE PHYSICS I

AV.2 DEPARTMENT OF PHYSICS & ASTRONOMY: PHY 111 COLLEGE PHYSICS LABORATORY I

**AIII. DEGREE REQUIREMENTS**

**AIII.1 SCHOOL OF Business: bUSINESS BS: Marketing, Management, International Business Concentrations**

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| **FROM: USE STRIKETHROUGH FOR ~~CHANGES~~** | **TO: USE UNDERLINE FOR CHANGES** |
| DEPARTMENT/PROGRAM: BUSINESS | DEPARTMENT/PROGRAM: NO CHANGE |
| TITLE OF DEGREE/MAJOR/MINOR/CERTIFICATE: BUSINESS: BS | TITLE OF DEGREE/MAJOR/MINOR/CERTIFICATE:NO CHANGE  |

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| Major Requirements ~~(39-42)~~ACC 114 Introduction to Accounting I 4ACC 218 Introduction to Accounting II 4BUS 160 Business Law I 3BUS 215 Information Management 4ECO 111 Introduction to Microeconomics 4ECO 112 Introduction to Macroeconomics 4FNC 240 Managerial Finance I 3MKT 111 Marketing 3MGT 110 Organizational Theory and Management 3MGT 230 Introduction to Managerial and Economic Statistics 4In addition to the course taken to satisfy Mathematical and Quantitative Reasoning (RMQR), students must take an additional math course from the following list: (3-6 credits) MTH 130 Pre-Calculus Mathematics 3MTH 221 Applied Finite Mathematics and Business Calculus 4MTH 230 Calculus I with Pre-Calculus 6MTH 231 Analytic Geometry and Calculus I 3MTH 232 Calculus II 3Concentration Requirements (~~26-36~~) Each student chooses one area of concentration. Concentrations are available in Finance, International Business, Management, and Marketing.Finance Concentration: 30 credits FNC 111 Personal Financial Management 3FNC 213 Money and Capital Markets 4ACC 315 Analysis of Financial Statements 3FNC 300 International Finance 4FNC 345 Managerial Finance II 4FNC 350 Advanced Corporate Finance 4FNC 360/ECO 360 Investment Analysis 4Plus one course chosen from (4 credits) ECO 318 Economic and Business Forecasting 4ECO 323/MGT 324 Introduction to Econometrics 4ECO 326 Introduction to Mathematical Economics 4International Business Concentration: ~~34-36~~ credits Students who are exempt from the foreign language course requirement must take additional credits from the courses listed below to complete the ~~34-36~~ credits required in the concentration.BUS 200 Introduction to International Business4BUS 415 Global Strategy and Decision Making 4~~MGT 416 Capstone Business Simulation 4~~Foreign Language 0-81. Business: At least two courses chosen from the following: BUS 598 Business Internship 4ECO 370 International Finance 4MGT 325 International Management 4MKT 320 International Marketing 4At least one course chosen from each of the following categories (2 and 3): 2. Economics/Political Science ECO 250 International Economics 4ECO 252/GEG 252 Economic Geography 4ECO 356 Economic Growth and Development 4ECO 251/POL 251 International Political Economy(P&D) 4POL 261 International Organizations 43. Country Focus BUS 420 Global Business Seminar: Doing Business Abroad 3HST 206 Modern China(P&D) 4HST 207 History of Africa 4HST 208 History of Modern Latin America(P&D) 4HST 209 Modern Japan(P&D) 4HST 210 History of Modern India(P&D) 4HST 235 The Modern Middle East 4HST 271 Modern British History: 1900 to the Present 4HST 272 Modern Germany 4HST 284 The Soviet Union and Contemporary Russia 4LNG 230/INT 230 Aspects of Contemporary China 4Management Concentration~~: 26-28~~ credits MGT 210 Management Process 4MGT 320 Management of Organizational Behavior 4MGT 410 Business Policy 4~~MGT 416 Capstone Business Simulation 4~~Plus two (2) courses chosen from the following list or any other 200-level or higher MGT course: (6-8 credits) MGT 223 Public Administration 4MGT 314 Small Business Management 4MGT 321 Production Management 4MGT 322 Human Resource Administration 4MGT 325 International Management 4MGT 326 Sports Management 4BUS 200 Introduction to International Business 4BUS 211 Communications in a Corporate Setting 3BUS 238 Ethical Issues in Business and Society 4MKT 215 Principles of Selling 3FNC 111 Personal Financial Management 3Plus any one (1) business-related course (except BUS 100) with the written approval of the student’s advisor. (3-4 credits) Marketing Concentration: ~~30-32~~ credits MKT 211 Advertising 4MKT 310 Consumer Behavior 4MKT 360 Digital Marketing 4MKT 410 Marketing Research 4MKT 420 Marketing Management 4~~MGT 416 Capstone Business Simulation 4~~Please one course chosen from the following Marketing Electives (3-4 credits) BUS 598 Business Internship 4MKT 311 Personal Selling and Sales Management 4MKT 316 Retailing and Channels of Distribution 4MKT 320 International Marketing 4MKT 325 Advertising Buying Strategy 4MKT 370 Advanced Marketing Strategy I 4MKT 371 Advanced Marketing Strategy II 4MKT 490 Marketing Seminar 3ANDOne additional business-related course (3-4 credits) Courses with any of the following designations: ACC or BDA or BUS or ECO or FNC or ISI or MGT or MKT may be used to satisfy this requirement. | Major Requirements (43-46)ACC 114 Introduction to Accounting I 4ACC 218 Introduction to Accounting II 4BUS 160 Business Law I 3BUS 215 Information Management 4ECO 111 Introduction to Microeconomics 4ECO 112 Introduction to Macroeconomics 4FNC 240 Managerial Finance I 3MKT 111 Marketing 3MGT 110 Organizational Theory and Management 3MGT 230 Introduction to Managerial and Economic Statistics 4MGT 416 Capstone Business Simulation 4In addition to the course taken to satisfy Mathematical and Quantitative Reasoning (RMQR), students must take an additional math course from the following list: (3-6 credits) MTH 130 Pre-Calculus Mathematics 3MTH 221 Applied Finite Mathematics and Business Calculus 4MTH 230 Calculus I with Pre-Calculus 6MTH 231 Analytic Geometry and Calculus I 3MTH 232 Calculus II 3Concentration Requirements (22-32) Each student chooses one area of concentration. Concentrations are available in Finance, International Business, Management, and Marketing.Finance Concentration: 30 credits FNC 111 Personal Financial Management 3FNC 213 Money and Capital Markets 4ACC 315 Analysis of Financial Statements 3FNC 300 International Finance 4FNC 345 Managerial Finance II 4FNC 350 Advanced Corporate Finance 4FNC 360/ECO 360 Investment Analysis 4Plus one course chosen from (4 credits) ECO 318 Economic and Business Forecasting 4ECO 323/MGT 324 Introduction to Econometrics 4ECO 326 Introduction to Mathematical Economics 4International Business Concentration: 31-32 credits Students who are exempt from the foreign language course requirement must take additional credits from the courses listed below to complete the 31-32 credits required in the concentration.BUS 200 Introduction to International Business 4BUS 415 Global Strategy and Decision Making 4Foreign Language 0-81. Business: At least two courses chosen from the following: BUS 598 Business Internship 4ECO 370 International Finance 4MGT 325 International Management 4MKT 320 International Marketing 4At least one course chosen from each of the following categories (2 and 3): 2. Economics/Political Science ECO 250 International Economics 4ECO 252/GEG 252 Economic Geography 4ECO 356 Economic Growth and Development 4ECO 251/POL 251 International Political Economy(P&D) 4POL 261 International Organizations 43. Country Focus BUS 420 Global Business Seminar: Doing Business Abroad 3HST 206 Modern China(P&D) 4HST 207 History of Africa 4HST 208 History of Modern Latin America(P&D) 4HST 209 Modern Japan(P&D) 4HST 210 History of Modern India(P&D) 4HST 235 The Modern Middle East 4HST 271 Modern British History: 1900 to the Present 4HST 272 Modern Germany 4HST 284 The Soviet Union and Contemporary Russia 4LNG 230/INT 230 Aspects of Contemporary China() 4Management Concentration: 21-24 credits MGT 210 Management Process 4MGT 320 Management of Organizational Behavior 4MGT 410 Business Policy 4Plus two (2) courses chosen from the following list or any other 200-level or higher MGT course: (6-8 credits) MGT 223 Public Administration 4MGT 314 Small Business Management 4MGT 321 Production Management 4MGT 322 Human Resource Administration 4MGT 325 International Management 4MGT 326 Sports Management 4BUS 200 Introduction to International Business 4BUS 211 Communications in a Corporate Setting 3BUS 238 Ethical Issues in Business and Society 4MKT 215 Principles of Selling 3FNC 111 Personal Financial Management 3Plus any one (1) business-related course (except BUS 100) with the written approval of the student’s advisor. (3-4 credits) Marketing Concentration: 26-28 credits MKT 211 Advertising 4MKT 310 Consumer Behavior 4MKT 360 Digital Marketing 4MKT 410 Marketing Research 4MKT 420 Marketing Management 4Please one course chosen from the following Marketing Electives (3-4 credits) BUS 598 Business Internship 4MKT 311 Personal Selling and Sales Management 4MKT 316 Retailing and Channels of Distribution 4MKT 320 International Marketing 4MKT 325 Advertising Buying Strategy 4MKT 370 Advanced Marketing Strategy I 4MKT 371 Advanced Marketing Strategy II 4MKT 490 Marketing Seminar 3ANDOne additional business-related course (3-4 credits) Courses with any of the following designations: ACC or BDA or BUS or ECO or FNC or ISI or MGT or MKT may be used to satisfy this requirement. |
| TOTAL CREDITS: 120 | TOTAL CREDITS: NO CHANGE |
| ROLE IN CURRICULUM: The BS in Business Program prepares students to be effective communicators who work collaboratively – supported by fundamental working knowledge of the various aspects of business and in-depth knowledge within their major topic. |
| RATIONALE: During 2018-2020, the School of Business significantly revised its Assurance of Learning plans and methodologies to be in accordance with requirements of the Association to Advance Collegiate Schools of Business International (AACSB). Assurance of Learning for AACSB needs to be evaluated at the degree program level – not at the departmental or concentration level. The BS in Business has 4 concentrations: Finance, International Business, Management, and Marketing. The BS in Business program assessment plan has 3 common Program Learning Goals and 1 Program Learning Goal. It is critical for the BS in Business to have a Capstone course where the achievement of the Learning Objectives of the 3 common Program Learning Goals for the BS in Business can be measured at the mastery level. MGT416 (Capstone Business Simulation) would be an appropriate candidate to serve as such Capstone course since it centers on a business simulation where students need to work together across different business disciplines. In addition, IB, MGT, and MKT already require this course within their concentration requirements. With the adoption of MGT416 as a required course by the FNC department, the course becomes a major requirement. This will not only enable measurement of achievement of Learning Objectives at the Mastery level, but also will prepare students for collaboration across business departments required in their professional lives. This change will require that at least one additional section per semester of MGT416 be offered. There are currently two full time faculty members and one adjunct faculty member who have recent experience teaching the course. In addition, there are other full-time faculty members who have taught MGT416 in the past who could step in if necessary. |
| SUBMISSION TO COMMITTEE CHAIR: 9/28/20 |
| APPROVAL: Marketing Department 7-9-20; Management Department 7-10-20, Finance Department 9-9-20; UCC 10/2/20 |
| CONSULTATION: N/A |
| EFFECTIVE: FALL 2022 |

**AIV. NEW COURSES**

**AIV. 1 PROGRAM IN ELECTRICAL ENGINEERING: ELE 756 SMART GRID**

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| DEPARTMENT/PROGRAM: ENGINERING AND ENVIRONMENTAL SCIENCE |
| CAREER LEVEL: GRADUATE |
| ACADEMIC LEVEL: REGULAR |
| SUJECT AREA: ELECTRICAL ENGINEERING |
| PROPOSED COURSE NUMBER/LEVEL: ELE 756 |
| COURSE TITLE: SMART GRID |
| PREREQUISITE: ELE 636 |
| COREQUISITE: NONE |
| PRE OR COREQUISITE: NONE |
| CREDITS: 3 |
| HOURS: 2 LECTURE, 2 LAB |
| CATALOG DESCRIPTION: Introduction to smart grid: Improving the reliability, quality, and efficiency of power flow through smart control. Centralized generation vs distributed generation of electric power. Integration of renewable energy and energy storage; microgrid topologies. Power flow with digital footprints: leveraging the real-time intelligence to optimize the power flow. Load flow control and phase shift transformers; voltage stability and intelligent reactive power management. Demand forecasting and bulk power systems automation. Interoperability and security. Case studies. |
| LIBERAL ARTS AND SCIENCES: NO |
| GENERAL EDUCATION: N/A |
| EFFECTIVE: FALL 2021 |
| ROLE IN CURRICULUM: Elective for ME in Electrical Engineering majors who wish to specialize in power systems. |
| RATIONALE: Power transmission and distribution infra-structure in many places in the US is as old as 90 years or more and has long been overdue for an upgrade. That brings increased job opportunities in the power area due to the shortage of trained engineers in this field as power companies start new initiatives to upgrade the power transmission and distribution infra-structure. Currently, we have two graduate courses in power systems area, which form the foundation for advanced study in power systems. This is the second of two new elective courses in this area, which will provide our students the opportunity to specialize in power systems. This course introduces students to current trends in managing the grid under distributed power generation environment. Include when the course will be (every semester or every other semester) and the expected enrollment (how many students will register per semester. |
| SUBMISSION TO COMMITTEE CHAIR: 10/2/20 |
| APPROVAL: ENGINEERING AND ENVIRONMENTAL SCIENCE 10/1/20; GRADUATE STUDIES COMMITTEE 10/5/20 |
| CONSULTATION: N/A |

**AIV.2 PROGRAM IN ELECTRICAL ENGINEERING: ELE 746 POWER ELECTRONICS AND INSTRUMENTATION**

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| DEPARTMENT/PROGRAM: ENGINERING AND ENVIRONMENTAL SCIENCE |
| CAREER LEVEL: GRADUATE |
| ACADEMIC LEVEL: REGULAR |
| SUJECT AREA: ELECTRICAL ENGINEERING |
| PROPOSED COURSE NUMBER/LEVEL: ELE 746 |
| COURSE TITLE: POWER ELECTRONICS AND INSTRUMENTATION |
| PREREQUISITE: ELE 636 |
| COREQUISITE: NONE |
| PRE OR COREQUISITE: NONE |
| CREDITS: 3 |
| HOURS: 2 LECTURE, 2 LAB |
| CATALOG DESCRIPTION: Semiconductor devices for high power and high voltage applications. Power conversion systems: analysis and design of controlled and uncontrolled rectifiers, choppers, and inverters. Analysis and design of active filters for power conditioning and quality control. Applications: Power grid interconnects, power converters, power inverters, and motor drives. |
| LIBERAL ARTS AND SCIENCES: NO |
| GENERAL EDUCATION: N/A |
| EFFECTIVE: FALL 2021 |
| ROLE IN CURRICULUM: Elective for ME in Electrical Engineering majors who wish to specialize in power systems. |
| RATIONALE: Power transmission and distribution infra-structure in many places in the US is as old as 90 years or more and has long been overdue for an upgrade. That brings increased job opportunities in the power area due to the shortage of trained engineers in this field. Furthermore, integration of distributed generation of electric power into the grid (the smart grid) as well as automotive industry’s quiet but systematic shift toward electric vehicles (EV) is opening new and sustained opportunities for engineers in power area. Currently, we have two graduate courses in power systems area, which form the foundation for advanced study in power systems. This is the first of two new elective courses in this area, which will provide our students the opportunity to specialize in power systems. This course would prepare our students to work with advanced power conversion, conditioning, and control systems. |
| SUBMISSION TO COMMITTEE CHAIR: 10/2/20 |
| APPROVAL: ENGINEERING AND ENVIRONMENTAL SCIENCE 10/1/20; GRADUATE STUDIES COMMITTEE 10/5/20 |
| CONSULTATION: N/A |

**AIV. 3 DEPARTMENT OF HISTORY: HST 130 U.S. HISTORY TO 1865**

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| DEPARTMENT/PROGRAM: HISTORY |
| CAREER LEVEL(UNDERGRADUATE OR GRADUATE): UNDERGRADUATE |
| ACADEMIC LEVEL(REGULAR OR REMEDIAL): REGULAR |
| SUBJECT AREA (I.E. ART, BIOLOGY): HISTORY |
| PROPOSED COURSE NUMBER/LEVEL: HST 130 |
| COURSE TITLE: U.S. HISTORY TO 1865 |
| PREREQUISITE: NONE |
| COREQUISITE: NONE |
| PRE OR COREQUISITE: NONE |
| CREDITS: 3 |
| HOURS: 3 |
| CATALOG DESCRIPTION: An examination of significant themes and events in U.S. history from the first human settlement of the Americas to 1865, with a special focus on diversity of experience, sources, and viewpoints -- examining how indigenous populations, slavery, and immigration shaped the development of the United States to 1865; explaining and evaluating the role of the U.S. in the world; and analyzing the development of U.S. constitutional democracy. (FUSR) |
| LIBERAL ARTS AND SCIENCES (YES OR NO): YES  |
| GENERAL EDUCATION: U.S. Experience in Its Diversity If a course is being considered to satisfy general education requirements, the proposal will need the approval of both the UCC and the GEC before moving on to FS. |
| EFFECTIVE: FALL 2021 |
| ROLE IN CURRICULUM: This course may be used to fulfill the General Education requirement of Flexible Core: US in Its Diversity (FUSR); it will not count toward the History Major or Minor. This course will take the place of HST 244 (U.S. History from 1607 to 1865) but is not equivalent to HST 244; the History Department intends to delist HST 244 once this course becomes available. |
| RATIONALE In our most recent self-study and through departmental assessment, the Department of History believes this change would allow us to achieve a number of goals, including student recruitment, coherence in transfers, and greater participation in General Education. At most CUNYs, the U.S. survey appears in the FUSR category; therefore the History Department has revised our existing two-semester 200-level, 4-credit/4-hour survey courses to be more appropriate for the FUSR category. This course will be offered each semester as needed, with the expectation of multiple sections being offered each semester. Because of the expectation of significant developmental writing, a course cap of 35 is appropriate. Include when the course will be (every semester or every other semester) and the expected enrollment (how many students will register per semester. |
| SUBMISSION TO COMMITTEE CHAIR: 9/28/2020 sent to Committee Chair and Curriculum Office (Sarah Zelikovitz, Veronica DiMeglio). Submitted to the General Education Committee Chair (Catherine Lavender) PENDING |
| APPROVAL: Approved by DEPARTMENT OF HISTORY, John Wing, Chair, 10/1/2020Approved by UNDERGRADUATE CURRICULUM COMMITTEE, Sarah Zelikovitz, Chair, 10/2/2020Include Dean(s) Name, Department Chair(s) Name/Program Director(s) Name and Date(s) |
| CONSULTATION: DEPARTMENT OF POLITICAL SCIENCE AND GLOBAL AFFAIRS, Michael Paris, Chair, 09/22/2020AMERICAN STUDIES PROGRAM, Bill Bauer, Director, 09/22/2020AFRICAN AND AFRICAN DIASPORA STUDIES PROGRAM, Maria Bellamy, Director, 09/22/2020CORE PROGRAM, Deborah DeSimone, Director, 09/22/2020Include (Dean(s) Name, Department Chair(s) Name/Program Director(s) Name and Date(s) |

**AIV.4 DEPARTMENT OF HISTORY: HST 131: U.S. HISTORY SINCE 1865**

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| DEPARTMENT/PROGRAM: HISTORY |
| CAREER LEVEL(UNDERGRADUATE OR GRADUATE) : UNDERGRADUATE |
| ACADEMIC LEVEL(REGULAR OR REMEDIAL): REGULAR |
| SUBJECT AREA (I.E. ART, BIOLOGY): HISTORY |
| PROPOSED COURSE NUMBER/LEVEL: HST 131 |
| COURSE TITLE: U.S. HISTORY SINCE 1865 |
| PREREQUISITE: NONE |
| COREQUISITE: NONE |
| PRE OR COREQUISITE: NONE |
| CREDITS: 3 |
| HOURS: 3 |
| CATALOG DESCRIPTION: An examination of significant themes and events in U.S. history since the end of the Civil War, with a special focus on diversity of experience, sources, and viewpoints -- examining how the continued presence of indigenous populations, the legacies of slavery, and ongoing immigration have shaped the development of the United States since 1865; explaining and evaluating the role of the U.S. in international relations; exploring the ongoing development of U.S. constitutional democracy; and analyzing and discussing common institutions or patterns of life in U.S. society and how they influence, or are influenced by, race, ethnicity, class, gender, sexual orientation, belief, or other forms of social differentiation. (FUSR) |
| LIBERAL ARTS AND SCIENCES (YES OR NO): YES |
| GENERAL EDUCATION: U.S. Experience in Its Diversity If a course is being considered to satisfy general education requirements, the proposal will need the approval of both the UCC and the GEC before moving on to FS. |
| EFFECTIVE: FALL 2021 |
| ROLE IN CURRICULUM: This course may be used to fulfill the General Education requirement of Flexible Core: US in Its Diversity (FUSR); it will not count toward the History Major or Minor. This course will take the place of HST 245 (U.S. History: 1865 to Present) but is not equivalent to HST 245; the History Department intends to delist HST 245 once this course becomes available.  |
| RATIONALE: In our most recent self-study and through departmental assessment, the Department of History believes this change would allow us to achieve a number of goals, including student recruitment, coherence in transfers, and greater participation in General Education. At most CUNYs, the U.S. survey appears in the FUSR category; therefore the History Department has revised our existing two-semester 200-level, 4-credit/4-hour survey courses to be more appropriate for the FUSR category. This course will be offered each semester as needed, with the expectation of multiple sections being offered each semester. Because of the expectation of significant developmental writing, a course cap of 35 is appropriate. Include when the course will be (every semester or every other semester) and the expected enrollment (how many students will register per semester. |
| SUBMISSION TO COMMITTEE CHAIR: 9/28/2020 sent to Committee Chair and Curriculum Office (Sarah Zelikovitz, Veronica DiMeglio). Submission to the General Education Committee Chair (Catherine Lavender) PENDING |
| APPROVAL: Approved by DEPARTMENT OF HISTORY, John Wing, Chair, 10/1/2020Approved by UNDERGRADUATE CURRICULUM COMMITTEE, Sarah Zelikovitz, Chair, 10/2/2020Include Dean(s) Name, Department Chair(s) Name/Program Director(s) Name and Date(s) |
| CONSULTATION: DEPARTMENT OF POLITICAL SCIENCE AND GLOBAL AFFAIRS, Michael Paris, Chair, 09/22/2020AMERICAN STUDIES PROGRAM, Bill Bauer, Director, 09/22/2020AFRICAN AND AFRICAN DIASPORA STUDIES PROGRAM, Maria Bellamy, Director, 09/22/2020CORE PROGRAM, Deborah DeSimone, Director, 09/22/2020Include (Dean(s) Name, Department Chair(s) Name/Program Director(s) Name and Date(s) |

**AV. CHANGE IN EXISTING COURSE**

**AV.1 DEPARTMENT OF PHYSICS & ASTRONOMY: PHY 110 COLLEGE PHYSICS I**

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| **FROM** | **USE STRIKETHROUGH FOR ~~CHANGES~~**  | **TO** | **USE UNDERLINE FOR CHANGES** |
| Department/Program | PHYSICS & ASTRONOMY | Department/Program | NO CHANGE |
| Course No. and Title | PHY 110 College Physics I | Course No. AND TITLE | PHY 110 Physics for Everyone |
| Prerequisite | N/A | Prerequisite | Eligibility to take 100-level MTH; MTH 123 is not required but recommended. |
| Corequisite | ~~PHY 111~~ | Corequisite |  |
| Pre or corequisite | ~~MTH 123 or Mathematics Department Examination.~~ | Pre or corequisite | PHY 111 |
| Credits | 3 | Credits | NO CHANGE |
| Hours | 3 | Hours | NO CHANGE |
| CATALOG DESCRIPTION | ~~Measurement, density, pendulum, vectors, free fall, projectiles acceleration, friction, Newton's laws, circular motion, collisions, energy, rigid body.~~ | CATALOG DESCRIPTION | An introductory survey of physics and its applications in science and society, with an emphasis on outstanding contemporary problems and the public interest. Physical topics to be surveyed include motion, gravity, energy, heat, waves, electricity, magnetism, atomic and subatomic matter, nuclear fission and fusion, quantum theory, relativity, and cosmology. Applications of physics to be discussed include transportation, communication, energy production, military and security policy, climate change, environmental protection, and space exploration. |
| Liberal Arts AND SCIENCES | YES | Liberal Arts AND SCIENCES | NO CHANGE |
| GenERAL EDUCATION | N/A | GenERAL EDUCATION | Life and Physical Sciences |
| Effective | N/A | Effective | SPRING 2021 |
| Role in Curriculum | General Education |
| Rationale | Previously titled College Physics I, PHY 110 has not played a meaningful part in the physics curriculum since the end of the College’s technology associates programs. Today, with the establishment of the Department of Physics and Astronomy, PHY 110 can now be effectively repurposed as a general education course in physics - a beautiful yet often misunderstood subject - that strongly emphasizes science and technology in the public interest. |
| Submission to Committee Chair | 9/29/2020 sent to Committee Chair and Curriculum Office |
| APPROVAL | Vadim Oganesyan, Chair, Department of Physics and Astronomy 9/20; UCC 10/2/20; GEC 10/5/20 |
| CONSULTATION | Cheryl Craddock, The Verrazzano School at CSI; Lisa French and Anita Romano, MHC at CSI (9/2020)Include (Dean(s) Name, Department Chair(s) Name/Program Director(s) Name and Date(s) |

**AV.2 DEPARTMENT OF PHYSICS & ASTRONOMY: PHY 111 COLLEGE PHYSICS I LABORATORY**

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| **FROM** | **USE STRIKETHROUGH FOR ~~CHANGES~~**  | **TO** | **USE UNDERLINE FOR CHANGES** |
| Department/Program | PHYSICS & ASTRONOMY | Department/Program | NO CHANGE |
| Course No. and Title | PHY 111 ~~College Physics I Laboratory~~ | Course No. AND TITLE | PHY 111 Introductory Computational Physics Laboratory |
| Prerequisite | N/A | Prerequisite | Eligibility to take 100-level MTH |
| Corequisite | ~~PHY 110~~ | Corequisite |  |
| Pre or corequisite | N/A | Pre or corequisite | PHY 110 |
| Credits | 1 | Credits | NO CHANGE |
| Hours | 2 | Hours | NO CHANGE |
| CATALOG DESCRIPTION | ~~Measurement, density, pendulum, vectors, free fall, projectiles acceleration, friction, Newton's laws, circular motion, collisions, energy, rigid body.~~ | CATALOG DESCRIPTION | An introductory laboratory course in physics and its applications in science and society, focused on computational laboratory techniques with emphasis on outstanding contemporary problems and the public interest. Simulations and computations include freefall in viscous media, orbital mechanics, thermodynamic random walks, atmospheric heating, nuclear chain reactions, infectious spread, storm modeling, and big data. |
| Liberal Arts AND SCIENCES | YES | Liberal Arts AND SCIENCES | NO CHANGE |
| GenERAL EDUCATION | N/A | GenERAL EDUCATION | College Option Laboratory |
| Effective | N/A | Effective | SPRING 2021 |
| Role in Curriculum | General Education |
| Rationale | Previously titled College Physics I Laboratory, PHY 111 has not played a meaningful part in the physics curriculum since the end of the College’s technology associates programs. Today, with the establishment of the Department of Physics and Astronomy, PHY 111 can now be effectively repurposed as a general education computational laboratory course in physics - a beautiful yet often misunderstood subject - that strongly emphasizes science and technology in the public interest. In its proposed form, this course will be especially well-suited to the online learning environment, as it will play to the strength of computational laboratory techniques. |
| Submission to Committee Chair | 9/29/2020 sent to Committee Chair and Curriculum Office |
| APPROVAL | Vadim Oganesyan, Chair, Department of Physics and Astronomy 9/20; UCC 10/2/20; GEC 10/5/20 |
| CONSULTATION | Cheryl Craddock, The Verrazzano School at CSI; Lisa French and Anita Romano, MHC at CSI (9/2020)Include (Dean(s) Name, Department Chair(s) Name/Program Director(s) Name and Date(s) |