**B.S. Biology / B.S. Chemical and Biomolecular Engineering Requirements (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| CHEM-UA 125 | General Chemistry I with Lab | 5 | CHEM-UA 126 | General Chemistry II with Lab | 5 |
| MATH-UA 121 | Calculus I | 4 | EG-UY 1003 | Introduction to Engineering and Design | 3 |
| BIOL-UA 11 | Principles of Biology I | 4 | BIOL-UA 12 | Principles of Biology II | 4 |
| EXPOS-UA 1 | Writing the Essay | 4 | BIOL-UA 123 | Principles of Biology Lab | 1 |
| | | | FYSEM-UA xxx | First-Year Seminar | 4 |
| | | 17 | | | 17 |
| Year 2 | | | | | |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| MATH-UA 122 | Calculus II | 4 | BIOL-UA 22 | Cell & Molecular Biology II | 4 |
| BIOL-UA 21 | Cell & Molecular Biology I | 4 | MATH-UA 140 | Linear Algebra | 4 |
| BIOL-UA 223 | Cell & Molecular Biology Lab | 1 | MATH-UA 123 | Calculus III | 4 |
| CORE-UA 4xx | Text & Ideas | 4 | | | |
| | | 18 | | | 17 |
| Year 3 | | | | | |
| CHEM-UA 651 | Physical Chemistry I | 4 | CHEM-UA 652 | Physical Chemistry II | 4 |
| CHEM-UA 225 | Organic Chemistry I with Lab | 5 | CHEM-UA 226 | Organic Chemistry II with Lab | 5 |
| PHYS-UA 95 | Physics for Majors III | 3 | CORE-UA 5xx | Culture & Contexts | 4 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | MATH-UA 262 | Ord. Differential Equations | 4 |
| CBE-UY 2124 | Analysis of Chemical and Biomolecular Process | 4 | | | |
| | | 17 | | | 17 |
| Year 4 | | | | | |
| CSCI-UA 101 | Introduction to Computer Science | 4 | CBE-UY 3233 | CBE Separations | 3 |
| CBE-UY 3313 | Transport I | 3 | CBE-UY 3223 | Kinetics and Reactor Design | 3 |
| CBE-UY 3153 | CBE Thermodynamics | 3 | CBE-UY 3323 | Transport II | 3 |
| CM-UY 3314 | Biochemistry I | 4 | BIOL-UA xxx | Advanced Bio Elective | 4 |
| CORE-UA 7xx | Expressive Culture | 4 | CORE-UA xxx | Societies & the Social Sciences | 4 |
| | | 18 | | | 17 |
| Year 5 | | | | | |
| CBE-UY 4113 | Engineering Laboratory I | 3 | CBE-UY 4213 | Engineering Laboratory II | 3 |
| CBE-UY 4143 | Process Dynamics & Control | 3 | CBE-UY 4263 | CBE Process Design II | 3 |
| CBE-UY 4163 | CBE Process Design I | 3 | CBE-UY 4173 | Polymeric Materials | 3 |
| XXX-UY xxxx | Engineering Elective | 3 | HU/SS | Elective | 4 |
| XXX-UY xxxx | Engineering Elective | 3 | HU/SS | Elective | 4 |
| XXX-UY xxxx | Engineering Elective | 3 | | | |
| | | 18 | | | 17 |

**Total: 173 Credits**[2]

[2] Tandon Engineering Electives are (traditionally) 3 credits

**B.S. Chemistry / B.S. Chemical and Biomolecular Engineering Requirements (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| CHEM-UA 125 | General Chemistry I with Lab | 5 | CHEM-UA 126 | General Chemistry II with Lab | 5 |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| FYSEM-UA xxx | First-Year Seminar | 4 | MATH-UA 140 | Linear Algebra | 4 |
| EXPOS-UA 1 | Writing the Essay | 4 | EG-UY 1003 | Introduction to Engineering and Design | 3 |
| | | 17 | | | 16 |
| Year 2 | | | | | |
| CHEM-UA 225 | Organic Chemistry I with Lab | 5 | CHEM-UA 226 | Organic Chemistry II with Lab | 5 |
| MATH-UA 123 | Calculus III | 4 | MATH-UA 262 | Ordinary Differential Equations | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| CORE-UA 4xx | Text & Ideas | 4 | CORE-UA 5xx | Cultures and Contexts | 4 |
| | | 18 | | | 18 |
| Year 3 | | | | | |
| CHEM-UA 651 | Physical Chemistry I | 4 | CHEM-UA 652 | Physical Chemistry II | 4 |
| CBE-UY 2124 | Analysis of Chemical and Biomolecular Process | 4 | CHEM-UA 661 | Experimental Methods | 4 |
| BIOL-UA 11 | Principles of Biology I | 4 | BIOL-UA 12 | Principles of Biology II | 4 |
| PHYS-UA 95 | Physics for Majors III | 3 | BIOL-UA 123 | Principles of Biology Lab | 1 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | CORE-UA 7xx | Expressive Culture | 4 |
| | | 17 | | | 17 |
| Year 4 | | | | | |
| CSCI-UA 101 | Introduction to Computer Science | 4 | CBE-UY 3233 | CBE Separations | 3 |
| CBE-UY 3313 | Transport I | 3 | CBE-UY 3223 | Kinetics and Reactor Design | 3 |
| CBE-UY 3153 | CBE Thermodynamics | 3 | CBE-UY 3323 | Transport II | 3 |
| CM-UY 3314 | Biochemistry I | 4 | HU/SS | Elective | 4 |
| CORE-UA xxx | Societies & the Social Sciences | 4 | HU/SS | Elective | 4 |
| | | 18 | | | 17 |
| Year 5 | | | | | |
| CBE-UY 4113 | Engineering Laboratory I | 3 | CBE-UY 4213 | Engineering Laboratory II | 3 |
| CBE-UY 4143 | Process Dynamics & Control | 3 | CBE-UY 4263 | CBE Process Design II | 3 |
| CBE-UY 4163 | CBE Process Design I | 3 | CBE-UY 4173 | Polymeric Materials | 3 |
| XXX-UY xxxx | Engineering Elective | 3 | XXX-UY xxxx | Engineering Elective | 3 |
| XXX-UY xxxx | Engineering Elective | 3 | | | |
| | | 15 | | | 12 |

**Total: 165**[4]

[4] Tandon Engineering Electives are (traditionally) 3 credits

**B.S. Mathematics / B.S. Civil Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| EXPOS-UA 1 | Writing the Essay | 4 | MATH-UA 140 | Linear Algebra | 4 |
| FYSEM-UA xxxx | First-Year Seminar | 4 | CORE-UA 5xx | Cultures & Contexts | 4 |
| | | 17 | | | 17 |
| Year 2 | | | | | |
| MATH-UA 123 | Calculus III | 4 | MATH-UA 262 | Ordinary Differential Equations | 4 |
| CORE-UA 4xx | Texts & Ideas | 4 | CORE-UA xxx | Societies & the Social Sciences | 4 |
| PHYS-UA 95 | Physics for Majors III | 3 | MATH-UA xxx | Mathematics Elective | 4 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | CM-UY 1004 | General Chemistry for Engineers | 4 |
| EG-UY 1003 | Introduction to Engineering and Design | 3 | | | |
| | | 16 | | | 16 |
| Year 3 | | | | | |
| MATH-UA 325 | Analysis | 4 | MATH-UA 343 | Algebra | 4 |
| MATH-UA xxx | Mathematics Elective | 4 | MATH-UA 224 | Vector Analysis | 4 |
| CORE-UA 7xx | Expressive Cultures | 4 | CE-UY 2123 | Mechanics of Materials | 3 |
| CE-UY 1002 | Introduction to Civil Engineering | 2 | CE-UY 2213 | Fluid Mechanics and Hydraulics | 3 |
| CE-UY 2113 | Statics | 3 | CS-UY 1133 | Engineering Problem Solving and Programming | 3 |
| | | 17 | | | 17 |
| Year 4 | | | | | |
| CE-UY 3133 | Structural Analysis | 3 | CE-UY 3153 | Geotechnical Engineering | 3 |
| CE-UY 3122 | Structural Dynamics | 2 | CE-UY 3173 | Structural Design | 3 |
| CE-UY 3223 | Environmental Engineering I | 3 | CE-UY xxxx | Transportation Engineering Elective | 3 |
| CE-UY 3162 | Materials Engineering | 2 | CE-UY 3243 | Water Resource Engineering | 3 |
| CE-UY 3161 | Materials Engineering Lab | 1 | HU/SS | Humanities/Social Science Elective | 4 |
| CE-UY 2343 | Transportation Engineering | 3 | | | |
| HU/SS | Humanities/Social Science Elective | 4 | | | |
| | | 18 | | | 16 |
| Year 5 | | | | | |
| CE-UY 4812 | Civil Engineering Design I | 2 | CE-UY 4822 | Civil Engineering Design II | 2 |
| CE-UY 4153 | Structural Design Project | 3 | CE-UY x5xx | Construction Management Elective | 3 |
| CE-UY 4092 | Leadership, Bus. Priciples, Policy and Ethics in CE | 2 | CE-UY xxxx | Civil Engineering Elective | 3 |
| CE-UY x5xx | Construction Management Elective | 3 | CE-UY xxxx | Civil Engineering or Construction Management Elective | 3 |
| CE-UY xxxx | Civil Engineering Elective | 3 | Free | Free Elective | 4 |
| Free | Free Elective | 3 | | | |
| | | 16 | | | 15 |

**Total: 165**

**B.S. Physics / B.S. Civil Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| EXPOS-UA 1 | Writing the Essay | 4 | PHYS-UA 93 | Physics for Majors II | 3 |
| FYSEM-UA xxx | First-Year Seminar | 4 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| PHYS-UA 91 | Physics for Majors I | 3 | CORE-UA 4xx | Texts & Ideas | 4 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | CS-UY 1133 | Engineering Problem Solving and Programming | 3 |
| | | 17 | | | 16 |
| Year 2 | | | | | |
| MATH-UA 123 | Calculus III | 4 | PHYS-UA 105 | Classical and Quantum Waves | 3 |
| CORE-UA 5xx | Cultures & Contexts | 4 | PHYS-UA 74 | Intermediate Experimental Physics II | 2 |
| PHYS-UA 95 | Physics for Majors III | 3 | PHYS-UA 106 | Mathematical Physics | 3 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | CORE-UA xxx | Societies & the Social Sciences | 4 |
| EG-UY 1003 | Introduction to Engineering and Design | 3 | CE-UY 1002 | Introduction to Civil Engineering | 2 |
| | | 16 | | | 14 |
| Year 3 | | | | | |
| PHYS-UA 123 | Quantum Mechanics I | 3 | PHYS-UA 112 | Experimental Physics | 3 |
| PHYS-UA 131 | Electricity and Magnetism I | 3 | PHYS-UA 140 | Thermal and Statistical Physics | 3 |
| CORE-UA 7xx | Expressive Culture | 4 | PHYS-UA xxx | Physics Elective (0110 and up) | 3 |
| CM-UY 1004 | General Chemistry for Engineers | 4 | CE-UY 2123 | Mechanics of Materials | 3 |
| CE-UY 2113 | Statics | 3 | CE-UY 2213 | Fluid Mechanics and Hydraulics | 3 |
| | | 17 | | | 15 |
| Year 4 | | | | | |
| CE-UY 3133 | Structural Analysis | 3 | PHYS-UA xxx | Physics Elective (0110 and up) | 3 |
| CE-UY 3122 | Structural Dynamics | 2 | CE-UY 3153 | Geotechnical Engineering | 3 |
| CE-UY 3223 | Environmental Engineering I | 3 | CE-UY 3173 | Structural Design | 3 |
| CE-UY 3162 | Materials Engineering | 2 | CE-UY xxxx | Transportation Engineering Elective | 3 |
| CE-UY 3161 | Materials Engineering Lab | 1 | CE-UY 3243 | Water Resource Engineering | 3 |
| CE-UY 2343 | Transportation Engineering | 3 | Free | Free Elective | 3 |
| HU/SS | Humanities/Social Science Elective | 4 | | | |
| | | 18 | | | 18 |
| Year 5 | | | | | |
| CE-UY 4812 | Civil Engineering Design I | 2 | CE-UY 4822 | Civil Engineering Design II | 2 |
| CE-UY 4153 | Structural Design Project | 3 | CE-UY x5xx | Construction Management Elective | 3 |
| CE-UY 4092 | Leadership, Bus. Priciples, Policy and Ethics in CE | 2 | CE-UY xxxx | Civil Engineering Elective | 3 |
| CE-UY x5xx | Construction Management Elective | 3 | CE-UY xxxx | Civil Engineering or Construction Management Elective | 3 |
| CE-UY xxxx | Civil Engineering Elective | 3 | HU/SS | Humanities/Social Science Elective | 4 |
| Free | Free Elective | 4 | | | |
| | | 17 | | | 15 |

**Total: 163**

**B.S. Computer Science / B.S. Computer Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| CSCI-UA 101 | Introduction to Computer Science | 4 | CSCI-UA 102 | Data Structures | 4 |
| MATH-UA 121 | Calculus I | 4 | CORE-UA 4xx | Text & Ideas | 4 |
| EXPOS-UA 1 | Writing the Essay | 4 | MATH-UA 122 | Calculus II | 4 |
| FYSEM-UA xxx | First-Year Seminar | 4 | EG-UY 1003 | Introduction to Engineering and Design | 3 |
| | | 16 | | | 15 |
| Year 2 | | | | | |
| CSCI-UA 201 | Computer System Organizations | 4 | CSCI-UA 202 | Operating Systems | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| MATH-UA 123 | Calculus III | 4 | MATH-UA 120 | Discrete Mathematics | 4 |
| MATH-UA 140 | Linear Algebra | 4 | MATH-UA 262 | Ordinary Differential Equation | 4 |
| | | 17 | | | 17 |
| Year 3 | | | | | |
| CSCI-UA 310 | Basic Algorithms | 4 | CSCI-UA xxx | Computer Science Elective | 4 |
| PHYS-UA 95 | Physics for Majors III | 3 | CORE-UA 5xx | Cultures & Contexts | 4 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | EE-UY 3114 | Fundamentals of Electronics I | 4 |
| EE-UY 2004 | Fundamentals of Electric Circuits | 4 | CS-UY 2204 | Digital Logic and State Machine Design | 4 |
| CS-UY 2124 | Object Oriented Programming | 4 | | | |
| | | 17 | | | 16 |
| Year 4 | | | | | |
| MA-UY 2224 | Data Analysis | 4 | CSCI-UA 436 | Computer Architecture | 4 |
| CM-UY 1004 | General Chemistry for Engineers | 4 | CORE-UA 7xx | Expressive Cultures | 4 |
| CORE-UA xxx | Societies & the Social Sciences | 4 | EE/CS-UY xxxx | CompE Restricted Elective | 3/4 |
| EE/CS-UY xxxx | CompE Restricted Elective | 3/4 | EE/CS-UY xxxx | CompE Restricted Elective | 3/4 |
| | | 15/16 | | | 14/16 |
| Year 5 | | | | | |
| CS/EE (UY) | Design Project I | 3 | CS/EE (UY) | Design Project II | 3 |
| EE-UY 4001 | ECE Professional Development & Presentation | 1 | HU/SS | Elective | 4 |
| EE/CS-UY xxxx | CompE Restricted Elective | 3/4 | EE/CS/EL-UY xxxx | Elective | 3 |
| EE/CS/EL-UY xxxx | Elective | 3 | EE-UY xxxx | Elective | 3 |
| HU/SS | Elective | 4 | | | |
| | | 14/15 | | | 13 |

**B.S. Mathematics / B.S. Computer Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| CSCI-UA 101 | Introduction to Computer Science | 4 | MATH-UA 122 | Calculus II | 4 |
| MATH-UA 121 | Calculus I | 4 | EXPOS-UA 1 | Writing the Essay | 4 |
| FYSEM-UA xxx | First-Year Seminar | 4 | MATH-UA 140 | Linear Algebra | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 71 | Introduction to Experimental Physics II | 2 |
| | | 17 | | | 17 |
| Year 2 | | | | | |
| MATH-UA 123 | Calculus III | 4 | MATH-UA 262 | Ordinary Differential Equations | 4 |
| PHYS-UA 93 | Physics for Majors III | 3 | MATH-UA 325 | Analysis | 4 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | CORE-UA 5xx | Cultures & Contexts | 4 |
| CORE-UA 4xx | Text & Ideas | 4 | MATH-UA 120 | Discrete Mathematics | 4 |
| EG-UY 1003 | Introduction to Engineering and Design | 3 | | | |
| | | 16 | | | 16 |
| Year 3 | | | | | |
| MATH-UA 233 | Theory of Probability (or MATH-UA 235 in spring) | 4 | MATH-UA 224 | Vector Analysis | 4 |
| MATH-UA 343 | Algebra | 4 | CS-UY 2124 | Object Oriented Programming | 4 |
| CS-UY 1134 | Data Structures and Algorithms | 4 | CS-UY 2204 | Digital Logic and State Machine Design | 4 |
| EE-UY 2004 | Fundamentals of Electric Circuits | 4 | EE-UY 3114 | Fundamentals of Electronics I | 4 |
| | | 16 | | | 16 |
| Year 4 | | | | | |
| CORE-UA xxx | Societies & the Social Sciences | 4 | CM-UY 1004 | General Chemistry for Engineers | 4 |
| MATH-UA xxx | Mathematics Elective | 4 | MATH-UA xxx | Mathematics Elective | 4 |
| CS-UY 2214 | Computer Architecture | 4 | CORE-UA 7xx | Expressive Culture | 4 |
| EE/CS-UY xxxx | CompE Restricted Elective | 3/4 | EE/CS-UY xxxx | CompE Restricted Elective | 3/4 |
| | | 15/16 | | | 15/16 |
| Year 5 | | | | | |
| EE/CS-UY 4xx3 | Design Project I | 3 | EE/CS-UY 4xx3 | Design Project II | 3 |
| EE-UY 4001 | ECE Professional Development & Presentation | 1 | EE/CS-UY xxxx | CompE Restricted Elective | 3/4 |
| EE/CS/EL-UY xxxx | Elective | 3 | EE/CS/EL-UY xxxx | Elective | 3 |
| EE/UY xxxx | Elective | 3/4 | EE/CS-UY xxxx | CompE Restricted Elective | 3/4 |
| HU/SS | Elective | 4 | HU/SS | Elective | 4 |
| | | 14/15 | | | 16/18 |

**Min Total credits: 158**

**B.S. Physics / B.S. Computer Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| CSCI-UA 101 | Introduction to Computer Science | 4 | FYSEM-UA xxx | First-Year Seminar | 4 |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| EXPOS-UA 1 | Writing the Essay | 4 | CORE-UA 4xx | Texts & Ideas | 4 |
| | | 17 | | | 17 |
| Year 2 | | | | | |
| PHYS-UA 95 | Physics for Majors III | 3 | PHYS-UA 105 | Classical and Quantum Waves | 3 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | PHYS-UA 74 | Intermediate Experimental Physics II | 2 |
| MATH-UA 123 | Calculus III | 4 | PHYS-UA 106 | Mathematical Physics | 3 |
| CORE-UA 5xx | Cultures & Contexts | 4 | CORE-UA 7xx | Expressive Culture | 4 |
| CORE-UA xxx | Societies & the Social Sciences | 4 | EG-UY 1003 | Introduction to Engineering and Design | 3 |
| | | 17 | | | 15 |
| Year 3 | | | | | |
| PHYS-UA 123 | Quantum Mechanics I | 3 | PHYS-UA 112 | Experimental Physics | 3 |
| PHYS-UA 131 | Electricity and Magnetism I | 3 | PHYS-UA 140 | Thermal and Statistical Physics | 3 |
| PHYS-UA xxx | Physics Elective (0110 and up) | 3 | EE-UY 3114 | Fundamentals of Electronics I | 4 |
| EE-UY 2004 | Fundamentals of Electric Circuits | 4 | PHYS-UA xxx | Physics Elective (0110 and up) | 3 |
| MA-UY 2034 | Linear Algebra and Differential Equations | 4 | CS-UY 1134 | Data Structures and Algorithms | 4 |
| | | 17 | | | 17 |
| Year 4 | | | | | |
| CS-UY 2124 | Object Oriented Programming | 4 | CS-UY 2214 | Computer Architecture | 4 |
| CM-UY 1004 | General Chemistry for Engineers | 4 | EE/CS-UY xxxx | CompE Restricted Elective | 3/4 |
| CS-UY 2204 | Digital Logic and State Machine Design | 4 | EE/CS-UY xxxx | CompE Restricted Elective | 3/4 |
| MA-UY 2224 | Data Analysis | 4 | MA-UY 2314 | Discrete Math | 4 |
| | | 16 | | | 14/16 |
| Year 5 | | | | | |
| EE/CS-UY 4xx3 | Design Project I | 3 | EE/CS-UY 4xx3 | Design Project II | 3 |
| EE-UY 4001 | ECE Professional Development | 1 | EE/CS-UY xxxx | CompE Restricted Elective | 3/4 |
| EE/CS-UY xxxx | CompE Restricted Elective | 3/4 | EE/CS/EL-UY xxxx | Elective | 3 |
| EE/CS/EL-UY xxxx | Elective | 3 | EE -UY xxxx | Elective | 3 |
| HU/SS | Elective | 4 | HU/SS | Elective | 4 |
| | | 14/15 | | | 16/17 |

**B.S. Computer Science / B.S. Electrical Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| CSCI-UA 101 | Introduction to Computer Science | 4 | CSCI-UA 102 | Data Structures | 4 |
| MATH-UA 121 | Calculus I | 4 | EXPOS-UA 1 | Writing the Essay | 4 |
| FYSEM-UA xxx | First-Year Seminar | 4 | MATH-UA 122 | Calculus II | 4 |
| CORE-UA 5xx | Cultures & Contexts | 4 | EG-UY 1003 | Introduction to Engineering and Design | 3 |
| | | 16 | | | 15 |
| Year 2 | | | | | |
| CSCI-UA 201 | Computer System Organizations | 4 | CSCI-UA 202 | Operating Systems | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| MATH-UA 123 | Calculus III | 4 | MATH-UA 140 | Linear Algebra | 4 |
| MATH-UA 120 | Discrete Mathematics | 4 | CORE-UA 4xx | Text & Ideas | 4 |
| | | 17 | | | 17 |
| Year 3 | | | | | |
| CSCI-UA 310 | Basic Algorithms | 4 | CSCI-UA xxx | Computer Science Elective | 4 |
| PHYS-UA 95 | Physics for Majors III | 3 | EE-UY 3114 | Fundamentals of Electronics I | 4 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | CS-UY 2204 | Digital Logic and State Machine Design | 4 |
| MATH-UA 262 | Ordinary Differential Equations | 4 | MA-UY 3113 | Advanced Linear Algebra and Complex Variables | 4 |
| EE-UY 2004 | Fundamentals of Electric Circuits | 4 | | | |
| | | 17 | | | 16 |
| Year 4 | | | | | |
| CS-UY 2164 | Introduction to Programming in C | 4 | EE-UY 3604 | Electromagnetic Waves | 4 |
| EE-UY 3054 | Signals and Systems | 4 | EE-UY xxxx | EE Restricted Elective | 4 |
| EE-UY xxxx | EE Restricted Elective | 4 | CORE-UA 7xx | Expressive Culture | 4 |
| CORE-UA xxx | Societies & the Social Sciences | 4 | MA-UY 2233 | Probability | 3 |
| | | | EE-UY/EL-GY | EE Elective | 3 |
| | | 16 | | | 18 |
| Year 5 | | | | | |
| EE-UY 4xx3 | Design Project I | 3 | EE-UY 4xx3 | Design Project II | 3 |
| EE-UY 4001 | ECE Professional Development | 1 | EE-UY/EL-GY xxxx | EE Elective | 3 |
| EE-UY xxxx | EE Restricted Elective | 4 | EE-UY/EL-GY xxxx | EE Elective | 3 |
| CM-UY 1004 | General Chemistry for Engineers | 4 | EE/CS/EL-UY xxxx | Elective | 3 |
| HU/SS | Elective | 4 | HU/SS | Elective | 4 |
| | | 16 | | | 16 |

**Total credits: 164**

**B.S. Mathematics / B.S. Electrical Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| EXPOS-UA 1 | Writing the Essay | 4 | PHYS-UA 93 | Physics for Majors II | 3 |
| FYSEM-UA xxx | First-Year Seminar | 4 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| PHYS-UA 91 | Physics for Majors I | 3 | CSCI-UA 101 | Introduction to Computer Science | 4 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | MATH-UA 140 | Linear Algebra | 4 |
| | | 17 | | | 17 |
| Year 2 | | | | | |
| CSCI-UA 102 | Data Structures | 4 | MATH-UA 262 | Ordinary Differential Equations | 4 |
| MATH-UA 123 | Calculus III | 4 | MATH-UA 120 | Discrete Mathematics | 4 |
| PHYS-UA 95 | Physics for Majors III | 3 | MATH-UA 282 | Functions of a Complex Variable | 4 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | EG-UY 1003 | Introduction to Engineering and Design | 3 |
| CORE-UA 4xx | Text & Ideas | 4 | | | |
| | | 17 | | | 15 |
| Year 3 | | | | | |
| MATH-UA 233 | Theory of Probability (or MATH-UA 235 in spring) | 4 | MATH-UA 224 | Vector Analysis | 4 |
| MATH-UA 325 | Analysis | 4 | MATH-UA 343 | Algebra | 4 |
| CORE-UA 5xx | Cultures & Contexts | 4 | EE-UY 3114 | Fundamentals of Electronics I | 4 |
| EE-UY 2004 | Fundamentals of Electric Circuits | 4 | CS-UY 2204 | Digital Logic and State Machine Design | 4 |
| | | 16 | | | 16 |
| Year 4 | | | | | |
| EE-UY/EL-GY | EE/EL Elective | 3 | EE-UY xxxx | EE Restricted Elective | 4 |
| EE-UY 3054 | Signals and Systems | 4 | EE-UY/EL-GY | EE/EL Elective | 3 |
| EE-UY 3604 | Electromagnetic Waves | 4 | EE-UY/EL-GY | EE/EL Elective | 3 |
| CS-UY 2164 | Introduction to Programming in C | 4 | CORE-UA 7xx | Expressive Culture | 4 |
| | | | CM-UY 1004 | General Chemistry for Engineers | 4 |
| | | 15 | | | 18 |
| Year 5 | | | | | |
| EE-UY 4xx3 | Design Project I | 3 | EE-UY 4xx3 | Design Project II | 3 |
| EE-UY 4001 | ECE Professional Development | 1 | EE-UY xxxx | EE Restricted Elective | 4 |
| CORE-UA xxx | Societies & the Social Sciences | 4 | EE-UY xxxx | EE Restricted Elective | 4 |
| EE/CS/EL-UY | Elective | 3 | HU/SS | Elective | 4 |
| HU/SS | Elective | 4 | | | |
| | | 15 | | | 15 |

**Total credits: 161**

**B.S. Physics / B.S. Electrical Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| EXPOS-UA 1 | Writing the Essay | 4 | CORE-UA xxx | Societies & the Social Sciences | 4 |
| FYSEM-UA xxx | First-Year Seminar | 4 | CORE-UA 5xx | Cultures & Contexts | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| | | 17 | | | 17 |
| Year 2 | | | | | |
| PHYS-UA 95 | Physics for Majors III | 3 | PHYS-UA 105 | Classical and Quantum Waves | 3 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | PHYS-UA 74 | Intermediate Experimental Physics II | 2 |
| MATH-UA 123 | Calculus III | 4 | PHYS-UA 106 | Mathematical Physics | 3 |
| CORE-UA 4xx | Text & Ideas | 4 | CORE-UA 7xx | Expressive Culture | 4 |
| EG-UY 1003 | Introduction to Engineering and Design | 3 | PHYS-UA xxx | Physics Elective (0110 and up) | 3 |
| | | 16 | | | 15 |
| Year 3 | | | | | |
| PHYS-UA 123 | Quantum Mechanics I | 3 | PHYS-UA 112 | Experimental Physics | 3 |
| PHYS-UA 131 | Electricity and Magnetism I | 3 | PHYS-UA 140 | Thermal and Statistical Physics | 3 |
| EE-UY 2004 | Fundamentals of Electric Circuits | 4 | EE-UY 3114 | Fundamentals of Electronics I | 4 |
| MA-UY 2034 | Linear Algebra and Differential Equations | 4 | CS-UY 2204 | Digital Logic and State Machine Design | 4 |
| CS-UY 1114 | Introduction to Programming and Problem Solving | 4 | MA-UY 3113 | Advanced Linear Algebra and Complex Variables | 4 |
| | | 18 | | | 18 |
| Year 4 | | | | | |
| PHYS-UA xxx | Physics Elective (0110 and up) | 3 | EE-UY 3604 | Electromagnetic Waves | 4 |
| EE-UY 3054 | Signals and Systems | 4 | EE-UY xxxx | EE Restricted Elective | 4 |
| MA-UY 2233 | Probability | 3 | EE-UY/EL-GY | EE/EL Elective | 3 |
| CS-UY 2164 | Introduction to Programming in C | 4 | HU/SS | Elective | 4 |
| | | | EE-UY/EL-GY | Elective | 3 |
| | | 14 | | | 18 |
| Year 5 | | | | | |
| EE-UY 4xx3 | Design Project I | 3 | EE-UY 4xx3 | Design Project II | 3 |
| EE-UY 4001 | ECE Professional Development | 1 | EE-UY xxxx | EE Restricted Elective | 4 |
| EE-UY/EL-GY | EE/EL Elective | 3 | EE-UY xxxx | EE Restricted Elective | 4 |
| CM-UY 1004 | General Chemistry for Engineers | 4 | EE/CS/EL-UY xxxx | Elective | 3 |
| HU/SS | Elective | 4 | | | |
| | | 15 | | | 14 |

**Total credits: 162**

**B.S. Mathematics / B.S. Mechanical Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| EXPOS-UA 1 | Writing the Essay | 4 | MATH-UA 140 | Linear Algebra | 4 |
| FYSEM-UA xxx | First-Year Seminar | 4 | CORE-UA 4xx | Text & Ideas | 4 |
| | | 17 | | | 17 |
| Year 2 | | | | | |
| MATH-UA 123 | Calculus III | 4 | MATH-UA 262 | Ordinary Differential Equations | 4 |
| PHYS-UA 95 | Physics for Majors III | 3 | CSCI-UA 102 | Data Structures | 4 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | CORE-UA 5xx | Cultures & Contexts | 4 |
| CSCI-UA 101 | Introduction to Computer Science | 4 | CM-UY 1004 | General Chemistry for Engineers | 4 |
| EG-UY 1003 | Introduction to Engineering and Design | 3 | | | |
| | | 16 | | | 16 |
| Year 3 | | | | | |
| MATH-UA 325 | Analysis | 4 | MATH-UA 343 | Algebra | 4 |
| MATH-UA xxx | Mathematics Elective | 4 | MATH-UA 224 | Vector Analysis | 4 |
| CS-UY 1133 | Engineering Problem Solving and Programming | 3 | MATH-UA xxx | Mathematics Elective | 4 |
| ME-UY 1012 | Introduction to Mechanical Engineering | 2 | ME-UY 2213 | Statics | 3 |
| MT-UY 2813 | Materials Science | 3 | ME-UY 2211 | Statics Laboratory | 1 |
| MT-UY 2811 | Materials Science Laboratory | 1 | ME-UY 2212 | Computer Aided Design | 2 |
| | | 17 | | | 18 |
| Year 4 | | | | | |
| CORE-UA 7xx | Expressive Culture | 4 | CORE-UA xxx | Societies & the Social Sciences | 4 |
| ME-UY 3333 | Thermodynamics | 3 | ME-UY 3233 | Machine Design | 3 |
| ME-UY 3213 | Mechanics of Materials | 3 | ME-UY 3313 | Fluid Mechanics | 3 |
| ME-UY 3211 | Mechanics of Materials Laboratory | 1 | ME-UY 3311 | Fluid Mechanics Laboratory | 1 |
| ME-UY 3223 | Dynamics | 3 | ME-UY 3413 | Automatic Control | 3 |
| ME-UY 3513 | Measurement Systems | 3 | ME-UY 3411 | Automatic Control Laboratory | 1 |
| ME-UY 3511 | Measurement Systems Lab | 1 | ME-UY xxxx | Elective | 3 |
| | | 18 | | | 18 |
| Year 5 | | | | | |
| ME-UY 4112 | Senior Design I | 2 | ME-UY 4113 | Senior Design II | 3 |
| ME-UY 4214 | Finite Element Modeling, Design, & Analysis | 4 | ME-UY xxxx | Elective | 3 |
| ME-UY 4313 | Heat Transfer | 3 | HU/SS | Elective | 4 |
| ME-UY 4311 | Heat Transfer Laboratory | 1 | HU/SS | Elective | 4 |
| ME-UY xxxx | Elective | 3 | | | |
| | | 13 | | | 14 |

**Total credits: 164**

**B.S. Physics / B.S. Mechanical Engineering (2017-2018)**

| *Fall* | | | *Spring* | | |
|---|---|---|---|---|---|
| Year 1 | | | | | |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| CORE-UA 4xx | Text & Ideas | 4 | PHYS-UA 93 | Physics for Majors II | 3 |
| FYSEM-UA xxx | First-Year Seminar | 4 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| PHYS-UA 91 | Physics for Majors I | 3 | EXPOS-UA 1 | Writing the Essay | 4 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | CORE-UA 5xx | Cultures & Context | 4 |
| | | 17 | | | 17 |
| Year 2 | | | | | |
| MATH-UA 123 | Calculus III | 4 | PHYS-UA 105 | Classical and Quantum Waves | 3 |
| PHYS-UA 95 | Physics for Majors III | 3 | PHYS-UA 74 | Intermediate Experimental Physics II | 2 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | PHYS-UA 106 | Mathematical Physics | 3 |
| CORE-UA 7xx | Expressive Culture | 4 | CORE-UA xxx | Societies & the Social Sciences | 4 |
| EG-UY 1003 | Introduction to Engineering and Design | 3 | CM-UY 1004 | General Chemistry for Engineers | 4 |
| | | 16 | | | 16 |
| Year 3 | | | | | |
| PHYS-UA 123 | Quantum Mechanics I | 3 | PHYS-UA 112 | Experimental Physics | 3 |
| PHYS-UA 131 | Electricity and Magnetism I | 3 | PHYS-UA 140 | Thermal and Statistical Physics | 3 |
| CS-UY 1133 | Engineering Problem Solving and Programming | 3 | PHYS-UA xxx | Physics Elective (0110 and up) | 3 |
| ME-UY 1012 | Introduction to Mechanical Engineering | 2 | MA-UY 2224 | Data Analysis | 4 |
| MT-UY 2813 | Materials Science | 3 | ME-UY 2213 | Statics | 3 |
| MT-UY 2811 | Materials Science Laboratory | 1 | ME-UY 2211 | Statics Laboratory | 1 |
| ME-UY 2212 | Computer Aided Design | 2 | | | |
| | | 17 | | | 17 |
| Year 4 | | | | | |
| ME-UY 3333 | Thermodynamics | 3 | ME-UY 3233 | Machine Design | 3 |
| ME-UY 3213 | Mechanics of Materials | 3 | ME-UY 3313 | Fluid Mechanics | 3 |
| ME-UY 3211 | Mechanics of Materials Laboratory | 1 | ME-UY 3311 | Fluid Mechanics Laboratory | 1 |
| ME-UY 3223 | Dynamics | 3 | ME-UY 3413 | Automatic Control | 3 |
| ME-UY 3513 | Measurement Systems | 3 | ME-UY 3411 | Automatic Control Laboratory | 1 |
| ME-UY 3511 | Measurement Systems Lab | 1 | ME-UY xxxx | Elective | 3 |
| PHYS-UA xxx | Physics Elective (0110 and up) | 3 | ME-UY xxxx | Elective | 3 |
| | | 17 | | | 17 |
| Year 5 | | | | | |
| ME-UY 4112 | Senior Design I | 2 | ME-UY 4113 | Senior Design II | 3 |
| ME-UY 4214 | Finite Element Modeling, Design, & Analysis | 4 | ME-UY xxxx | Elective | 3 |
| ME-UY 4313 | Heat Transfer | 3 | HU/SS | Elective | 4 |
| ME-UY 4311 | Heat Transfer Laboratory | 1 | HU/SS | Elective | 4 |
| Free | Free Elective | 3 | | | |
| Free | Free Elective | 3 | | | |
| | | 16 | | | 14 |

**Total Credits: 164**