**B.S. in Computer Science:** **4-year Study Plan (start with Math 0901)**

*This first-year study plan is for new students only. All new students should see their CS/IT faculty advisor in October to review and update their 4-year study plans before the early registration period (in November). Students should pay attention to each course’s prerequisites and the available courses in each semester.* Please check the academic guide sheets at <http://yoda.kean.edu/studyplans/>

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| Name: | Faculty Advisor: |
| Kean Id# | Catalog Year: |

Notes: All transfer students should take CPS 1010 (1 credit).

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| **1st Year Fall (16-3)** | **1st Year Spring (15)** |
| **MATH 0901** Basic Algebra (3) 🡪 not counted | **MATH 1000** Algebra (3) – Free Elective #1 for CS, DS, Security |
| **COMM 1402** Speech Communication (3) | **ENG 2403** World Literature (3) |
| **ENG 1030** College Composition (3) | **Social Sciences** (3) |
| **GE 1000/3000** Transition to Kean (1) | **TECH 1010** IT Foundations - **Free Elective (3)** #1 |
| **HIST 1062** Worlds of History (3) | **ID 1400** Comp. in Modern Society - **Free Elective (3)** #2 |
| **Humanities** (3) |  |

Internship, summer course, or summer research

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| **2nd Year Fall (17)** | **2nd Year Spring (18)** |
| **MATH 1054** Precalculus (3) | **MATH 2110** Discrete Structures (3) |
| **CPS 1231** Fundamentals of CS (4) | **CPS 2231** Computer Programming (4) |
| **GE 2024** Research and Technology (3) | **TECH 2920** Computer Systems (3) |
| **Humanities** (3) | **ENG 3091** Technical Writing (3) |
| **Lab Science 1** (4) | **Lab Science 2** (4) |
|  | **CPS 2010** Career Education - Free Elective (1) #3 |

Internship, summer course, or summer research

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| **3rd Year Fall (17)** | **3rd Year Spring (15/16)** |
| **MATH 2415** Calculus I (4) | **CPS 3962** Object Oriented Analysis & Design (3) – SP only |
| **CPS 2232** Data Structures (4) | **CPS Elective** (3) #1 |
| **CPS 2390** Computer Org. and Arch. (3) | **Free Elective** 3000/4000 (3) #5 |
| **MATH or Science** (3) #1 🡪 Science | **MATH 2416** Calculus II (4) or MATH 2995 Linear Algebra (3) |
| **Free Elective** 3000/4000 (3) #4 | **MATH or Science** (3) #2 🡪 Science |
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Internship, summer course, or summer research

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| **4th Year Fall (15)** | **4th Year Spring (15)** |
| **CPS 3440** Analysis of Algorithms (3)- FA only | **CPS 4951** Senior Project (3) – SP only |
| **CPS Elective** (3) #3 | **CPS 4222** Principles of Networking (3) – SP only |
| **CPS 4150** Computer Arch. (FA)(3) or **CPS Elective** (3) #2 | **CPS 4200** Systems Prog. (SP)(3) or **CPS Elective** (3) #2 |
| **CPS Elective** (3) #4 | **CPS Elective** (3) #5 |
| **MATH Elective** 3xxx (3) | **Free Elective 3000/4000** (3) #5 |
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Internship, summer course, or summer research

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| **Fall offered CPS Major Electives** | **Spring offered CPS Major Electives** |
| **CPS 3310** Programming Languages (FA)(3) | **CPS 3320** Python Programming (SP)(3) |
| **CPS 3351** Information Systems Programming (FA)(3) | **CPS 3498** Computer Security (SP)(3) |
| **CPS 3498** Computer Security (FA)(3) | **CPS 3500** Programming WWW (SP)(3) |
| **CPS 3740** Database Management Systems (FA)(3) | **CPS 3525** Programming in the UNIX Environment (SP)(3) |
| **CPS 4301** Software Engineering (FA)(3) | **CPS 3601** Human Computer Interaction (SP)(3) |
| **CPS 4498** Digital Forensics (FA)(3) | **CPS 3740** Database Management Systems (SP)(3) |
| **CPS 4745** Visualization Design & Development (FA)(3) | **CPS 4721** Data Mining Principles (SP)(3) |
| **CPS 4802** AI Machine Learning Algorithms (FA)(3) | **CPS 4801** Artificial Intelligence Applications (SP)(3) |
| **CPS 4931** Distributed Systems Applications (FA)(3) |  |
| **CPS 4601** User Experience Design (TBA)(3) |  |
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