# MARIAN UNIVERSITY
## Indianapolis ®

**2020-21 Computer Science Checklist**

Name_____

Student ID_____

Date_____

## GENERAL EDUCATION

### I. Foundational Intellectual Skills (12-13 hours)
____FYS110 First Year Seminar
____ENG112 Writing and Community
____COM101 Public Speaking
____Mathematics (MAT 230)

### II. Knowledge Acquisition (19-20 hours)
____Science with lab
____HUM210 Meaning Through Culture
____PHL 130 Human Nature & Person
____Foreign Language

**One course from each group A and B:**
**Group A**
____BUS109 Business Plan Competition
____ECN200 Introductory Economics
____HIS102 History of the Modern World
____POL102 Introduction to American Politics
**Group B**
____GST200 Introduction to Gender Studies
____PSY101 General Psychology
____PSY220 Human Growth & Development
____SOC101 Introduction to Sociology
____SOC175 Introduction to Anthropology

### III. Faith, Ethics, and Foundation (6 hours)
____THL105 Introduction to Theology
____Second Approved THL (see catalogue)

### IV. Greater Depth Cluster
a. Completion of a minor or second major outside school (or department if College of Arts & Sciences)
b. Completion of an interdisciplinary minor or concentration outside the first major. See catalog for approved programs.
c. Focus on a specific theme (cluster) outside the major. See catalog for cluster course areas

**Total Earned General Education Hours_____**

## COMPUTER SCIENCE MAJOR REQUIREMENTS (60 hours)

### Core Courses (18 hours)
| | |
|---|---|
| ____CST 150/171 Intro or Procedural Programming | 4 |
| ____CST 200 Data Structures and Algorithms | 4 |
| ____CST 220 Computer Organization and Assembly Language | 3 |
| ____CST 250 Design and Analysis of Algorithms | 4 |
| ____CST490 Senior Seminar | 2 |
| ____CST491 Senior Capstone | 1 |

### Breadth and Depth in Computer Science (24 hours)
| | |
|---|---|
| ____CST 340 Database Systems | 3 |
| ____CST 420 Operating Systems | 3 |
| *One System Class* | |
| CST 315 Computer Graphics | 3 |
| ____CST 320 Computer Architecture | 3 |
| *One Theory Class* | |
| CST 318 Artificial Intelligence | 3 |
| CST 450 Theory of Computation | 3 |
| ____CST 451 Principles of Programming Languages | 3 |
| *CS Electives (Choose 2, 6 hours total)* | |
| ____CST ELE or Internship | 3 |
| ____CST ELE or Internship | 3 |
| *CS/MAT/SCI Electives (Choose 2, 6 hours total)* | |
| ____Approved CST/MAT/SCI ELE (See catalogue) | 3 |
| ____Approved CST/MAT/SCI ELE (See catalogue) | 3 |

### Mathematics Proficiency (17 hours)
| | |
|---|---|
| ____MAT 230 Calculus and Analytic Geometry I | 4 |
| ____MAT 231 Calculus and Analytic Geometry II | 4 |
| ____MAT 250 Problem-Solving and Intro to Proofs | 3 |
| ____MAT 310 Linear Algebra | 3 |
| ____MAT 322 Statistical Inference I | 3 |

**Total Earned Major Hours_____**

**TOTAL OVERALL EARNED HOURS_____**

# MARIAN UNIVERSITY
## INDIANAPOLIS ®

**2020-21 Major**
**B.S. in Computer Science Program Sample Four-Year Plan**

### Freshman Year

| Fall Semester | | | | Spring Semester | | | |
|---|---|---|---|---|---|---|---|
| Requirement Category | Course | Credit Hours | Minimum Grade* | Requirement Category | Course | Credit Hours | Minimum Grade* |
| General Education | FYS110 | 3 | | Major | CST 150/171 | 4 | C |
| General Education | PHL 130 | 3 | | Major | MAT 231 | 4 | C |
| Major | MAT 230 | 4 | C | General Education | ENG112 | 3 | |
| General Education | Foreign Language | 4 | | General Education | COM101 | 3 | |
| Minor/Elective/GDC | | 3 | | General Education | THL 105 | 3 | |
| **Semester Hours** | 17 | | | **Semester Hours** | 17 | | |
| **Cumulative Hours** | 17 | | | **Cumulative Hours** | 34 | | |

### Sophomore Year

| Fall Semester | | | | Spring Semester | | | |
|---|---|---|---|---|---|---|---|
| Requirement Category | Course | Credit Hours | Minimum Grade* | Requirement Category | Course | Credit Hours | Minimum Grade* |
| Major | CST 200 | 4 | C | Major | CST 250 | 3 | C |
| Major | MAT 322 | 3 | C | Major | MAT 250 | 3 | C |
| General Education | BUS/ECN/HIS/POL | 3 | | General Education | GST/PSY/SOC | 3 | |
| General Education | Science w/ lab | 4 | | Major | CST 220 | 3 | C |
| Minor/Elective/GDC | | 3 | | Minor/Elective/GDC | | 3 | |
| **Semester Hours** | 17 | | | **Semester Hours** | 15 | | |
| **Cumulative Hours** | 51 | | | **Cumulative Hours** | 66 | | |

### Junior Year

| Fall Semester | | | | Spring Semester | | | |
|---|---|---|---|---|---|---|---|
| Requirement Category | Course | Credit Hours | Minimum Grade* | Requirement Category | Course | Credit Hours | Minimum Grade* |
| Major | CST 420 | 3 | C | Major | CST 340 | 3 | C |
| Major | CST 315/320 | 3 | C | Major | CST 318/450/451 | 3 | C |
| Major | CST ELE | 3 | C | Major | CST ELE | 3 | C |
| Major | MAT 310 | 3 | C | Minor/Elective/GDC | | 3 | |
| General Education | HUM 210 | 3 | | Minor/Elective/GDC | | 3 | |
| **Semester Hours** | 15 | | | **Semester Hours** | 15 | | |
| **Cumulative Hours** | 81 | | | **Cumulative Hours** | 96 | | |

### Senior Year

| Fall Semester | | | | Spring Semester | | | |
|---|---|---|---|---|---|---|---|
| Requirement Category | Course | Credit Hours | Minimum Grade* | Requirement Category | Course | Credit Hours | Minimum Grade* |
| Major | CST 490 | 2 | C | Major | CST/MAT/SCI ELE | 3 | |
| Major | CST 491 | 1 | C | Major | CST/MAT/SCI ELE | 3 | C |
| Major | CST/MAT/SCI ELE | 3 | C | Minor/Elective/GDC | | 3 | C |
| Minor/Elective/GDC | | 3 | | Minor/Elective/GDC | | 3 | |
| Minor/Elective/GDC | | 3 | | Minor/Elective/GDC | | 3 | |
| General Education | Second THL | 3 | | Minor/Elective/GDC | | 2 | |
| | | | | | | | |
| **Semester Hours** | 15 | | | **Semester Hours** | 17 | | |
| **Cumulative Hours** | 111 | | | **Cumulative Hours** | 128 | | |

Note: A minimum 2.0 cumulative GPA and a minimum 2.0 major GPA are required for graduation, so monitor your GPA closely. To meet degree requirements, some disciplines require higher grades in each course or a higher cumulative GPA.

This four-year plan is only a sample and will vary by student and course availability. Revised May 2019.