

# Texas A & M University-Corpus Christi

Curriculum Sheet for 2018-2019 Catalog

This Curriculum expires in 6 years.

\* Asterik Symbol = Upper Division Hours

+ Plus Symbol = Double counting core and major requirement

Degree: **Bachelor of Science**

Major: **Computer Science**

Option: **Game Programming**

## COMMON UNIVERSITY CORE CURRICULUM

|  |                                  | SCH | PREREQUISITES |
|--|----------------------------------|-----|---------------|
| ENGL 1302  | Eng. Composition                 | 3   |               |
| COMM 1311  | Oral Communication               | 3   | n/a           |
| See Catalog                                      | Language, Philosophy, or Culture | 3   | see catalog   |
| HIST 1301  | US History I                     | 3   | n/a           |
| HIST 1302  | US History II                    | 3   | n/a           |
| POLS 2305  | US GOVT                          | 3   | n/a           |
| POLS 2306  | TX GOVT                          | 3   | n/a           |
| See Catalog                                      | Creative Arts (see catalog)      | 3   | see catalog   |
| ECON 2301, ECON 2302,<br>PSYC 2301, or SOCI 1301 | Social/Behavioral Sciences       | 3   | n/a           |

## MAJOR SPECIFIC UNIVERSITY CORE CLASSES (See note below)

|                        |   |     |  |
|------------------------|---|-----|--|
| +MATH 2413             | Calculus I  | (4) | MATH 1314 & MATH 1316 or MATH 2312<br>Co-requisite SMTE Lab Safety Seminar |
| +PHYS 2425 & PHYS 2426 | Natural Science                                       | (6) | Register by discipline (0 hrs)   |
| +CAO Option I          | MATH 2414 Calculus II                                 | (4) | MATH 2414  |
| +CAO Option II         | Lab from Calculus I<br>Lab from PHYS 2425 & PHYS 2426 | (2) | see catalog  |

**NOTE: Taking core curriculum classes other than those listed in the major specific university core classes section will result in taking additional courses that may not be required to complete your degree. Please consult with your major academic**

## Computer Science Core

|                         |  |   |                                    |
|-------------------------|--|---|------------------------------------|
| COSC 1100               | Skills for Computing Professional I  | 1 | Co-requisite w/ COSC 1435          |
| COSC 1435               | Intro to Problem Solving I w/lab   | 4 | MATH 1314                          |
| COSC 1436               | Intro to Problem Solving II w/lab  | 4 | COSC 1435                          |
| COSC 2334               | Computer Architecture  | 3 | COSC 1435 & MATH 2305              |
| COSC 2437               | Data Structures w/lab  | 4 | COSC 1436 & Co-req MATH 2305       |
| *COSC 3336              | Intro to Database Systems  | 3 | COSC 2437                          |
| *COSC 3346              | Operating Systems  | 3 | COSC 2437 & COSC 2334 or ENTC 3418 |
| *COSC 3370              | Software Engineering   | 3 | COSC 2437                          |
| *COSC 4100              | Skills for Computing Professionals III   | 1 | COSC 1100 and ENGL 3310            |
| *ENGL 3310              | Technical and Professional Writing for CS  | 3 |                                    |
| *COSC 4342              | Computer Networks  | 3 | COSC 3346 & MATH 2413              |
| *COSC 4354              | Senior Capstone  | 3 | COSC 3370 & 3336                   |
| MATH 2413               | Calculus I w/ lab  | 4 | MATH 1314 & 1316 OR 2312           |
| MATH 2305               | Discrete Mathematics I   | 3 | MATH 2312                          |
| *MATH 3342 or MATH 3345 | Applied Probability & Statistics or<br>Statistical Modeling and Data<br>Analysis | 3 | MATH 2413                          |

## Courses Specific to Game Programming Option

|            |                                  |   |  |
|------------|----------------------------------|---|--|
| COSC 2325  | Game Design                      | 3 | None   |
| *COSC 3324 | Object-Oriented Programming      | 3 | COSC 2437  |
| *COSC 3325 | Game Programming                 | 3 | COSC 2437  |
| *COSC 3385 | Numerical Methods                | 3 | MATH 2413, COSC 1330 OR COSC 1435.<br>MATH 2414 and MATH 3311 Recommended. |
| *COSC 4325 | Advanced Game Programming        | 3 | COSC 3325  |
| *COSC 4328 | Computer Graphics                | 3 | COSC 2437 & MATH 2413  |
| *COSC 4330 | Intro to Artificial Intelligence | 3 | COSC 2437 & MATH 2305  |
| *COSC 4343 | Algorithms                       | 3 | COSC 2437 & MATH 2305 & MATH 2413  |
| MATH 2414  | Calculus II                      | 4 | MATH 2413  |
| *MATH 3311 | Linear Algebra                   | 3 | MATH 2413  |
| *MATH 4328 | Discrete Math II                 | 3 | MATH 2305 & COSC 2437  |
| PHYS 2425  | University Physics I             | 4 | MATH 2413  |
| PHYS 2426  | University Physics II            | 4 | MATH 2414  |

### Choose one upper division course from:

|   |  |   |   |
|---|--|---|---|
| *COSC 3353, Survey of Program Languages OR  |  |   |   |
| *COSC 3360 Human Computer in Interaction OR |  | 3 | COSC 2437; COSC 1436; COSC 3346 & COSC 3353 OR 3324 |
| *COSC 4348 Systems Programming              |  |   |   |

### Choose one upper division course from:

|   |  |   |   |
|---|--|---|---|
| *COSC 4353 Compiler Construction OR           |  |   |   |
| *COSC 4360 Theory of Programming Languages OR |  | 3 | COSC 3353 & MATH 2305; COSC 2437; MATH 2305 |
| *COSC 4370 Models of Computation              |  |   |   |

Electives as needed to fulfill university graduation minimum requirements **0-1**

## Program requirement:

**College Minimum major grade point average (g.p.a.)**

**2.25**

## University Requirements

|  |             |
|--|-------------|
| Minimum Total Hours for degree:              | 120         |
| *Upper Division minimum total hours:         | 45          |
| *Upper Division minimum residency hours:     | 36          |
| *Upper Division minimum major residency hrs: | 12          |
| Cumulative TAMU-CC minimum g.p.a.:           | 2           |
| Foreign Language Requirement:                | see catalog |

All COSC majors are required to meet with their assigned faculty mentor every fall. Contact the Academic Advisor for more information.

All classes under the heading of Computer Science core & all COSC courses on degree plan.