

UMBC CMSC BS Game Development Track

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Motivation

- Video games are big business
 - MD ranks 2nd-4th in number of video game companies (40-50 companies)
- Also very popular among students
 - Many colleges & universities are creating new games programs and degrees
- We have a lot of expertise and contacts

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Program Focus

- Most other programs focus on game ***design***
- Typical game team: ~100 people
 - 2/3 artists
 - 1/3 programmers
 - 1 lead designer
- We'll focus on training programmers
 - New Visual Arts concentration in Animation and Interactive Media focuses on the artists
 - Both programs work together

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Ideal Game Developer

- Firm grounding in CS
- Knows topics relevant to games
 - Graphics, AI, Networks, Parallel Programming, Databases, Mechanics, ...
- Experience in cross-disciplinary teams

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Solution

- Games *track*
 - Degree is our existing BS, with restricted electives
 - Shared experiences/projects with Art
- Benefit
 - For students: learn to be game programmers
 - Or defense contractors, or work at NASA, or any CS job!
 - For UMBC: Attract students

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Requirements

- Additional required courses
 - PHYS 121: Physics I
 - Satisfies existing science requirement
 - ART 380(AH): Hist & Theory of Interactive Art
 - Shared experience with Art students
 - CMSC 435: Graphics; CMSC 471: AI
 - CMSC 493: Games Capstone
 - Shared project with Art students
- Restricted 400-level CMSC electives (2)
 - 445: Software Eng., 455: Numerical Comp., 461: Databases, 481: Networks, 483: Parallel Proc., Others with permission

Other Optional Courses

- CMSC 104 “games” section
 - Accessible to students in Art program
 - Use Alice (teaches programming with animation)
- CMSC 2??: Game Engines and Scripting
 - Bring students into track
 - Give students in track a Sophomore course
 - Not required (avoid credit overload, friendlier for transfer students)
 - New course (needs to be developed)

CSEE Resources

- CMSC 104
 - New prep, but replaces an existing section
 - Trade for ART 380 having AH designation, but if successful may want to extend to other sections
- CMSC 2xx: Game Engines and Scripting
 - New course, 1x per year
- CMSC 493: Game Capstone
 - New course, 1x per year, shared with ART