BYU Computer Science
Animation and Games Emphasis

Fall 2025 Requirements

77 – 81.5 credits

Grades below C- are not allowed in major courses

Core Course Requirements (78.5-79.5 Hours)

1. Complete the following prerequisite courses: CS 111, CS 191, CS 235, CS 291, CSANM 150, DESAN 101 (Apply to the program)

2. Complete the following: CS 224, 236, 240, 312, 324, 355,455, CSANM 250

3. Complete the following supporting courses: WRTG 316 , Math 112, 213, 215, Phscs 121

4. Complete one of the following: STATS 121 or 201

5. Complete one of the following: Math 113, Math 290, or STAT 220

6. Complete either CSANM 354 or CSANM 342

7. Complete either DESAN 460 or CS 404

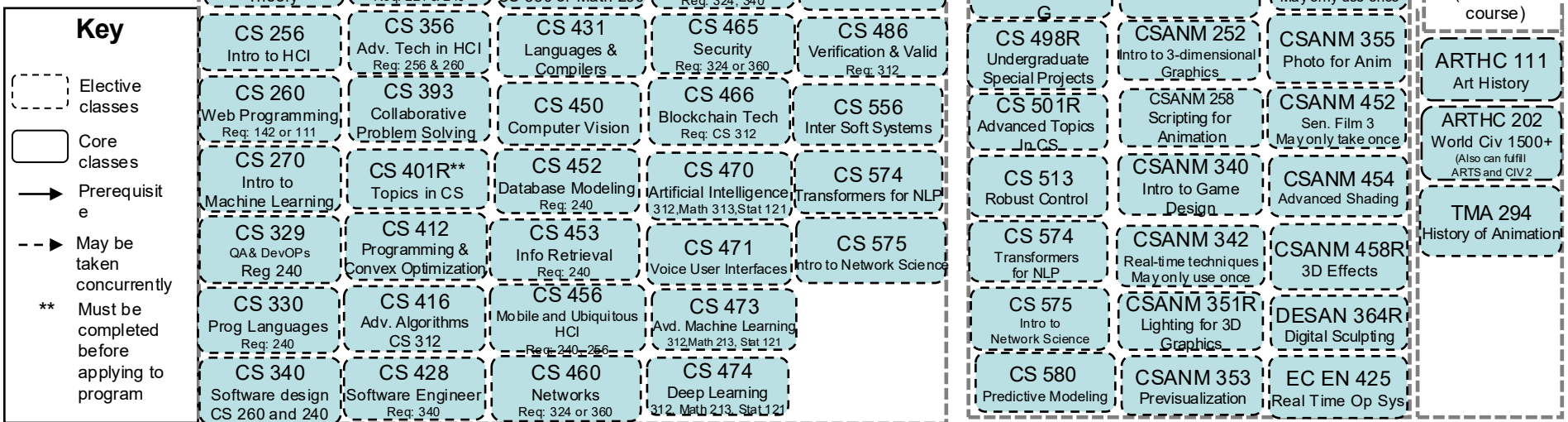
8. Complete 6 credits from the following: CSANM 352, 450, 452, 459 or 460

Elective Course Requirements

9. Complete 2 from the following: CS 252, 256, 260, 270, 329, 330, 340, 345, 356, 393, 401R, 412, 428, 431, 450, 452, 453, 456, 460, 462, 465, 466, 470, 471, 473, 474, 479, 486, 556, 574, or 575

10. Complete 2 from the following: Any 400 course listed under 9, CS 501R, 513, 556, 574, 575, 580, CSANM 210, 252, 258, 340, 342, 351R, 353, 354, 355, 452, 454, 458R, DESAN 364R, or ECEN 425.

11 . Complete 1 course from the following: ARTHC 111, ARTHC 202 or TMA 294



BYU Computer Science
Animation and Games Emphasis

Fall 2024 Requirements

77 – 81.5 credits

Grades below C- are not allowed in major courses

Core Course Requirements (78.5-79.5 Hours)

1. Complete the following prerequisite courses: CS 111, CS 191, CS 235, CS 291, CSANM 150, DESAN 101 (Apply to the program)
2. Complete the following: CS 224, 236, 240, 312, 324, 355,455, CSANM 250
3. Complete the following supporting courses: WRTG 316 , Math 112, 213, 215, Phscs 121
4. Complete one of the following: STATS 121 or 201
5. Complete one of the following: Math 113, Math 290, or STAT 220
6. Complete either CSANM 354 or CSANM 342
7. Complete either DESAN 460 or CS 404
8. Complete 6 credits from the following: CSANM 352, 450, 452, 459 or 460

Elective Course Requirements

9. Complete 2 from the following: CS 252, 256, 260, 270, 329, 330, 340, 345, 356, 393, 401R, 412, 428, 431, 450, 452, 453, 456, 460, 462, 465, 466, 470, 471, 473, 474, 479, 486, 556, 574, or 575
10. Complete 2 from the following: Any 400 course listed under 9, CS 501R, 513, 556, 574, 575, 580, CSANM 210, 252, 258, 340, 342, 351R, 353, 354, 355, 452, 454, 458R, DESAN 364R, or ECEN 425.
11 . Complete 1 course from the following: ARTHC 111, ARTHC 202 or TMA 294

*CS 401R, 498R & 501R must be taken for 3 credits

CORE

Freshman

Semester 1

- Math 112 Calculus 1
- CS 191** Exploring CS (.5)
- CS 111** Intro Programming
- DESAN 101** Intro to Drawing

Semester 2

- Math 113, Math 290, or STAT 220
- Stat 121 or 201 Statistics
- CS 235** Data Structures Req. 111 or 142
- CSAnm 150** 3D Graphics

Sophomore

Semester 3

- CSANM 250 Interm 3D Computer Graphics
- CS 291 Careers in CS (.5) Req: 111, 191
- CS 224 Intro to Comp Sys Req. CS 235
- CS 236 Discrete Structures CS 235
- Apply to the Program

Semester 4

- Math 213 Elem Linear Alg Req. Math 112
- Math 215 Comp Linear Alg Req. Math 112
- Phscs 121 Physics
- CS 240 Adv Software Construction Req. CS 235
- Elective I (Choose below)

Junior

Semester 5

- CS 355 Interactive Graphics Req: CS 240 and Math 313 or Math 213 & 215
- WRTG 316 Technical Writing
- CS 312 Algorithm Analysis
- CSAnm 354 or CSANM 342

Semester 6

- CS 455 Comp Graphics Req. 240 & 355
- Elective G Or CSANM 352 (Choose below)
- CS 324 Sys Programming

Senior

Semester 7

- DESAN 460 Or CS 404 Ethics
- CSAnm 450 Or 459 Sen. Film or Game
- Elective G (Choose below)
- Elective G or H (Choose below)
- CSANM 452 Or CSANM 460
- Elective H (Choose 2 courses)
- Elective H (Choose below)

Semester 8

Guide only – Consult MyMap for your specific requirements

Elective G (Choose 2 courses)

Key

- Elective classes
- Core classes
- Prerequisite
- May be taken concurrently
- ** Must be completed before applying to program

Elective G

- CS 252 Computational Theory
- CS 256 Intro to HCI
- CS 260 Web Programming Req: 142 or 111
- CS 270 Intro to Machine Learning
- CS 329 Test, Analysis, Verify Reg 240
- CS 330 Prog Languages Req: 240
- CS 340 Software design CS 260 and 240
- CS 345 Operating Sys Dsgn Req: 224 & 240
- CS 356 Adv. Tech in HCI Req: 256 & 260
- CS 393 Algorithms & Problem Solving
- CS 401R** Topics in CS
- CS 412 Programming & Convex Optimization
- CS 428 Software Engineer Req: 340
- CS 431 Languages & Compilers
- CS 450 Computer Vision
- CS 452 Database Modeling Req: 240
- CS 453 Info Retrieval Req: 240
- CS 456 UI Software Req: 240, 256
- CS 460 Networks Req: 324 or 360
- CS 462 Distributed Systems Req: 324, 340
- CS 465 Security Req: 324 or 360
- CS 466 Blockchain Tech Req: CS 312
- CS 470 Artificial Intelligence 312,Math 313,Stat 121
- CS 471 Voice User Interfaces
- CS 473 Avd. Machine Learning 312,Math 213, Stat 121
- CS 474 Deep Learning 312, Math 213, Stat 121
- CS 479 Machine Translation
- CS 486 Verification & Valid Req: 312
- CS 556 Research Methods in HCI
- CS 574 Transformers for NLP
- CS 575 Intro to Network Science

Elective H

- Any 400 level course listed, under elective G
- CS 498R Undergraduate Special Projects
- CS 501R Advanced Topics In CS
- CS 513 Robust Control
- CS 574 Transformers for NLP
- CS 575 Intro to Network Science
- CS 580 Predictive Modeling
- CSANM 210 Visual Narrative
- CSANM 252 Intro to 3-dimensional Graphics
- CSANM 258 Scripting for Animation
- CSANM 340 Intro to Game Design
- CSANM 342 Real-time techniques May only use once
- CSANM 351R Lighting for 3D Graphics
- CSANM 353 Previsualization
- CSANM 354 Materials &Surfacing May only use once
- CSANM 355 Photo for Anim
- CSANM 452 Sen. Film 3 May only take once
- CSANM 454 Advanced Shading
- CSANM 458R 3D Effects
- DESAN 364R Digital Sculpting
- EC EN 425 Real Time Op Sys

Elective I (Choose 1 course)

- ARTHC 111 Art History
- ARTHC 202 World Civ 1500+ (Also can fulfill ARTS and CIV 2
- TMA 294 History of Animation

BYU Computer Science
Animation and Games Emphasis

Fall 2023Requirements

77 – 80.5 credits

1. Grades below C- are not allowed in major courses

Core Course Requirements (78.5-79.5 Hours)

2. Complete the following prerequisite courses: CS 111, CS 235, CSANM 150, DESAN 101 t
3. Apply to the program
4. Complete the following: CS 224, 236, 240, 312, 324 355,455, CSANM 250
5. Complete the following supporting courses: WRTG 316 , Math 112, 213, 215, Phscs 121, and Stat 121 or 201
6. Complete one of the following: Math 113, Math 290, or STAT 220
6. Complete either CSANM 354 or CSANM 342
7. Complete either DESAN 460 or CS 404
8. Complete 6 credits from the following: CSANM 352, 45, 452, 459 or 460

Elective Course Requirements

9. Complete 2 from the following: CS 252,256, 260, 329,330, 340,345, 356, 393, 41R,412, 428, 431, 450, 452, 450, 453, 456, 460, 462, 465, 466, 470, 471, 472, 474, 479, or 486.
10. Complete 2 from the following: Any 400 course listed under 9, CS 501R, 513, 575, 580, CSANM 210, 252, 258, 340, 342, 353, 352, 354, 355, 452, 454, 458, DESAN 364R,or ECEN 425.
11 . Complete 1 course from the following: ARTHC 111, ARTHC 202 or TMA 294

*CS 401R, 498R & 501R must be taken for 3 credits

CORE

Freshman — Semester 1 / Semester 2

- Math 112 Calculus 1
- Stat 121 or 201 Statistics
- Math 113, Math 290, or STAT 220
- Phscs 121 Physics
- CS 111** Intro Programming
- DESAN 101** Intro to Drawing
- CS 235** Data Structures Req. 111 or 142
- CSAnm 150** 3D Graphics

Sophomore — Semester 3 / Semester 4

- CSANM 250 Interm 3D Computer Graphics
- CS 224 Intro to Comp Sys Req. CS 235
- CS 236 Discrete Structures CS 235
- Apply to the Program
- Math 213 Elem Linear Alg Req. Math 112
- Math 215 Comp Linear Alg Req. Math 112
- CS 240 Adv Software Construction Req. CS 235
- Elective I (Choose below)

Junior — Semester 5 / Semester 6

- CS 355 Interactive Graphics Req: CS 240 and Math 313 or Math 213 & 215
- WRTG 316 Technical Writing
- CS 312 Algorithm Analysis
- CSAnm 354 or CSANM 342
- CS 455 Comp Graphics Req. 240 & 355
- Elective G Or CSANM 352 (Choose below)
- CS 324 Sys Programming

Senior — Semester 7 / Semester 8

- DESAN 460 Or CS 404 Ethics
- CSAnm 450 Or 459 Sen. Film or Game
- Elective G (Choose below)
- Elective H (Choose below)
- Elective H (Choose below)
- CSANM 452 Or CSANM 460
- Elective H (Choose 2 courses)

Guide only – Consult MyMap for your specific requirements

Elective G (Choose 2 courses)

- CS 252 Computational Theory
- CS 256 Intro to HCI
- CS 260 Web Programming Req: 142 or 111
- CS 329 Test, Analysis, Verify Reg 240
- CS 330 Prog Languages Req: 240
- CS 340 Software design CS 260 and 240
- CS 345 Operating Sys Dsgn Req: 224 & 240
- CS 356 Adv. Tech in HCI Req: 256 & 260
- CS 393 Algorithms & Problem Solving
- CS 401R** Topics in CS
- CS 412 Programming & Convex Optimization
- CS 428 Software Engineer Req: 340
- CS 431 Languages & Compilers
- CS 450 Computer Vision
- CS 452 Database Modeling Req: 240
- CS 453 Info Retrieval Req: 240
- CS 456 UI Software Req: 240, 256
- CS 460 Networks Req: 324 or 360
- CS 462 Distributed Systems Req: 324, 340
- CS 465 Security Req: 324 or 360
- CS 466 Blockchain Tech Req: CS 312
- CS 470 Artificial Intelligence 312,Math 313,Stat 121
- CS 471 Voice User Interfaces
- CS 472 Machine Learning 312,Math 213, Stat 121
- CS 474 Deep Learning 312, Math 213, Stat 121
- CS 479 Machine Translation
- CS 486 Verification & Valid Req: 312

Any 400 level course listed, under elective G

- CS 501R Advanced Topics In CS
- CS 513 Robust Control
- CS 575 Network Science
- CS 580 Predictive Modeling
- CSANM 210 Visual Narrative

Elective H (Choose 2 courses)

- CSANM 252 Intro to 3-dimensional Graphics
- CSANM 258 Scripting for Animation
- CSANM 340 Intro to Game Design
- CSANM 342 Real-time techniques May only use once
- CSANM 353 Previsualization
- CSANM 354 Materials &Surfacing May only use once
- CSANM 355 Photo for Anim
- CSANM 452 Sen. Film 3 May only take once
- CSANM 454 Advanced Shading
- CSANM 458 3D Effects
- DESAN 364R Digital Sculpting
- EC EN 425 Real Time Op Sys

Elective I (Choose 1 course)

- ARTHC 111 Art History
- ARTHC 202 World Civ 1500+
- TMA 294 History of Animation

Key

- Elective classes
- Core classes
- Prerequisite
- May be taken concurrently
- ** Must be completed before applying to program

BYU Computer Science
Animation and Games Emphasis

Fall 2022 Requirements

77 – 80.5 credits

1. Grades below C- are not allowed in major courses

Core Course Requirements (78.5-79.5 Hours)

2. Complete the following prerequisite courses: CS 142, CS 235, CSANM 150, **DESAN 101
3. Apply to the program
4. Complete the following: CS 111 CS 224, 236, 240, 252, 312, 324, 340, 355, 404, 455
5. Complete the following supporting courses: CSANM 354, Engl 316, Math 112, 113, 213, 215, Phscs 121, and Stat 121 or 201
6. Complete either CSANM 450R or 459R

Elective Course Requirements

7. Complete 1 course from the following: ARTHC 111, ARTHC 202 or TMA 294
8. Complete 3 courses from the following: CS401R, 412, 428,431, 450, 452, 453, 456, C 460, 462, 465, 470, 471, 472, 474, 486,498R*, 501R*, 500 ,513, CSANM 252,CSANM 258,CSANM 340, CSANM 342, CSANM 351R, CSANM 355, CSANM 452R, CSANM 454, CSANM 458, CSANM 460R, DESAN 364R, ECEN 425
9. Complete 1 courses from the following: CS 260, 329, 330, 345, 356, 393, 401R, 412,418, 428, 431, 450,452, 453, 456, 460, 462, 465, 470, 471, 472, 474, 479, 486,ECEN 425, or any 400-level CS courses (except CS 404, 405, and 498R*)

*CS 401R, 498R & 501R must be taken for 3 credits

** DESAN 101 is not officially required, however the Lego Project required to apply to the program will be completed in DESAN 101

Key

- Elective classes
- Core classes
- Prerequisite
- May be taken concurrently
- ** Must be completed before applying to program

CORE

Freshman

Semester 1

- Math 112 Calculus 1
- Stat 121 or 201 Statistics
- CS 111** Intro Programming

Semester 2

- Math 113 Calculus 2 Req. Math 112
- Phscs 121 Physics
- CS 235** Data Structures Req. 111 or 142
- DESAN 101 Intro to Drawing For Pre-Animation **See note

Sophomore

Semester 3

- CSAnm 150** 3D Graphics
- CS 224 Intro to Comp Sys Req. CS 235
- CS 236 Discrete Structures CS 235
- Apply to the Program

Semester 4

- Math 213 Elem Linear Alg Req. Math 112
- Math 215 Comp Linear Alg Req. Math 112
- CS 240 Adv Programming Req. CS 235& 236
- CS 252 Intro Comp Theory Req. CS 236

Junior

Semester 5

- CS 355 Interactive Graphics Req: CS 240 and Math 313 or Math 213 & 215
- WRTG 316 Technical Writing
- CS 324 Sys Programming
- CS 312 Algorithm Analysis

Semester 6

- CS 455 Comp Graphics Req. 240 & 355
- CS 404 Ethics in Comp
- CSAnm 354 Shader Program
- CS 340 Design and Testing

Senior

Semester 7

- CSAnm 450R Or 459R Sen. Film or Game
- Elective G (Choose below)
- Elective H (Choose below)
- Elective I (Choose below)
- Elective H (Choose below)

Semester 8

- Elective H (Choose below)
- Elective H (Choose below)

Elective G (Choose 1 course)

- CS 260 Web Programming Req: 142 or 111
- CS 401R** Topics in CS
- CS 453 Info Retrieval Req: 240
- CS 471 Voice User Interfaces
- CS 329 Test, Analysis, Verify Reg 240
- CS 412 Programming & Convex Optimization
- CS 456 UI Software Req: 240, 256
- CS 472 Machine Learning 312,Math 213, Stat 121
- CS 330 Prog Languages Req: 240
- CS 428 Software Engineer Req: 340
- CS 460 Networks Req: 324 or 360
- CS 474 Deep Learning 312, Math 213, Stat 121
- CS 345 Operating Sys Dsgn Req: 224 & 240
- CS 431 Languages & Compilers
- CS 462 Distributed Systems Req: 324, 340
- CS 486 Verification & Valid Req: 312
- CS 356 User Experience Req: 240
- CS 450 Computer Vision
- CS 465 Security Req: 324 or 360
- EC EN 425 Real Time Op Sys Req: EC EN 323 & 330
- CS 393 Algorithms & Problem Solving
- CS 452 Database Modeling Req: 240
- CS 470 Artificial Intelligence 312,Math 313,Stat 121

Elective H (Choose 3 course)

- Any 400 level course listed, under elective G
- CSANM 342 Real time techniques
- CSANM 454 Advanced Shading
- CS 501R Advanced Topics In CS
- CSANM 351R Lighting for 3D
- CSANM 458 3D Effects
- CSANM 252 Intro to 3-dimensional Graphics
- CSANM 353 Previsualization
- CSANM 460R Video Game 2
- CSANM 258 Scripting for Animation
- CSANM 355 Photo for Anim
- DESAN 364R Digital Sculpting
- CSANM 340 Intro to Game Design
- CSANM 452R Senior Film 2
- EC EN 425 Real Time Op Sys

Elective I (Choose 1 course)

- ARTHC 111 Art History
- ARTHC 202 World Civ 1500+
- TMA 294 History of Animation