

**NORCO COLLEGE
SLO to PLO MATRIX**

| NORCO COLLEGE SLO to PLO MATRIX | | PLOs | Apply the principles of theoretically sound game design including gameplay, core mechanics, game balancing, and iterative rapid prototyping to produce both nondigital and digital original games | Create a comprehensive game design document which facilitates team management including communication, milestones/deadlines and responsiveness. | Develop content that contributes to a milestone based studio pipeline | Create an industry standard portfolio containing game design projects and documents developed in class projects. |
|--|--|-------------|---|---|---|--|
| CERTIFICATE/PROGRAM: | Game Design | | | | | |
| COURSE: | GAM-21 History of Video Games | | | | | |
| SLO 1 | Diagram and describe the basic elements of video games from its beginning through the present. | | I | | I | |
| SLO 2 | Understand the technical advancements of video games throughout time including but not limited to microprocessors, desktop computers, the Macintosh computers and multi-dimensional viewing. | | I | | | |
| SLO 3 | Identify the representative video games throughout history that changed the course of the video game phenomenon. | | I | I | | |
| SLO 4 | Evaluate historical events that influenced video game development in various cultures around the world. | | I | I | | |
| SLO 5 | Compare and contrast various video games styles and genres throughout time. | | I | I | | |
| SLO 6 | Define standard operational video game terminology. | | I | I | | |
| COURSE: | GAM-22 Game Design Principles | | | | | |
| SLO 1 | Examine and critically discuss the component parts of games | | I,D | | | |
| SLO 2 | Identify, examine and differentiate various aspects that make a game fun and compelling | | I,D | I | I | I |
| SLO 3 | Apply the principles of theoretically sound game design including gameplay, core mechanics, game balancing, and iterative rapid prototyping | | I,D,M | I,D,M | | |
| SLO 4 | Demonstrate teamwork skills in the development of an original non-digital game | | I,D | I | | |
| SLO 5 | Develop analytical skills which can be applied to the multiple uses of both computer hardware and software products for simulation gaming | | I | I | | |
| COURSE: | GAM-23 Digital Game Design | | | | | |
| SLO 1 | Compare the various genres of video games in order to determine relation to core mechanics. | | I,D | I | | |
| SLO 2 | Analyze the various aspects that make a game fun and compelling including formal elements, game balancing and level design. | | I,D | I | | |
| SLO 3 | Create a comprehensive game design document in order to facilitate team | | I,D,M | I,D,M | I,D | I,D |

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| | management including communication, milestones/deadlines and responsiveness. | | | | | |
| SLO 4 | Analyze the original game design in terms of the target audience and determine the number, type and goal for each level in the game, as well as the type of music and sound effects. | I | | | | |
| SLO 5 | Apply the principles of theoretically sound game design including gameplay, core mechanics, game balancing, and iterative rapid prototyping. | I,D,M | | | I,D | I,D |
| SLO 6 | Demonstrate teamwork skills in order to develop an original digital game. | I,D | | | | |
| SLO 7 | Explain the concept of "mastery" as it relates to video games, and how the game designer motivates players to continue playing, and to avoid frustration. | | | | | |
| COURSE: | GAM-35 Introduction to Simulation and Game Development | | | | | |
| SLO 1 | Examine and critically discuss the various industries which use simulation and computer gaming and the methods of which gaming is used. | I,D | | I | | |
| SLO 2 | Examine and differentiate the business aspects of game development from concept to commercialization such as concept pitch, planning and scheduling, and promotional tools. | I | | I,D | | |
| SLO 3 | Analyze, discuss, and apply the principles of theoretically sound game design. | I,D | | I,D,M | | |
| SLO 4 | Identify and differentiate the game development project lifecycle and associated documents such as the Pitch Document, Game Design Document, Technical Design Document, Art Production Plan, Project Plan and Game Prototype. | | | I,D,M | | |
| SLO 5 | Demonstrate an appreciation of the interactions between business, industry and the creative process of game design. | | | | | |
| SLO 6 | Identify career paths and understand the job market outlook and education requirements for computer gaming professionals. | | | | | |
| COURSE: | GAM-37 Beginning Level Design for Computer Games | | | | | |

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| SLO 1 | Identify and critically discuss the basics of game design. | | I,D | I,D | | |
| SLO 2 | Examine and illustrate various aspects that make a game fun and compelling. | | I,D,M | I | | |
| SLO 3 | Demonstrate the concept of game “flow” and how to design levels to keep the user in a game flow state. | | I,D,M | I,D,M | | |
| SLO 4 | Apply terrain, environment and lighting effects to add interest and challenges to level design. | | I | | I,D | I,D |
| SLO 5 | Analyze and apply the principles of theoretically sound game level design including placing challenges, moving objects, game balancing. | | I,D | I,D | | |
| SLO 6 | Examine, discuss and apply genre specific strategies to level design. | | I | I,D,M | | |
| SLO 7 | Apply scripting tools to level design. | | I | | I,D | I,D |
| SLO 8 | Develop analytical skills which can be applied to the multiple uses of both computer hardware and software products for simulation gaming. | | I | | | |
| SLO 9 | | | | | | |
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| COURSE: | GAM-44 Beginning Level Design for Computer Games | | | | | |
| SLO 1 | Consider and assess student portfolio work based on content, creativity, presentation, craftsmanship, originality, and achievement of goals | | I | | | I,D,M |
| SLO 2 | Choose and creatively organize original pieces into a cohesive body of work culminating in a presentation quality portfolio which emphasizes the student’s strengths or area of specialization | | I,D | | | I,D,M |
| SLO 3 | Organize student information and experience and prepare a creative, professional resume, cover letter, and follow-up letter | | | | | I,D,M |
| SLO 4 | Employ professional interview skills in a mock interview setting including presentation of individual portfolio | | | | | I,D,M |
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| COURSE: | GAM-79 Game Studio Production | | | | | |
| SLO 1 | Produce an original, complete simulation, digital game or mobile application. | | I,D,M | | I,D,M | I,D,M |
| SLO 2 | Develop content in the area of game art, game audio, game design or game programming that contributes to a milestone based studio pipeline | | I,D,M | | I,D,M | I,D,M |
| SLO 3 | Demonstrate mastery of interdisciplinary communication and team skills necessary for success in the games industry. | | I,D,M | | I,D,M | I,D,M |
| SLO 4 | | | | | | |
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| COURSE: | CIS-5 Fundamentals of Programming Logic Using C++ | | | | | |
| SLO 1 | Describe the software development life-cycle | | | | | |
| SLO 2 | Describe the principles of structured programming and be able to design, implement and test structured programs. | | | | | |
| SLO 3 | Explain what an algorithm is and its importance in computer programming. | | | | | |
| SLO 4 | Summarize the evolution of programming languages illustrating how this history has led to the paradigms available today. | | | | | |
| SLO 5 | Use pseudocode, flowcharts, and a programming language to implement, test, and debug algorithms for solving problems. Identify the information requirements, synthesize the algorithmic steps needed to transform the data input into the required output information, and organize the output format to facilitate user communication. | | | | | |
| SLO 6 | Demonstrate different forms of binding, visibility, scoping, and lifetime management. | | | | | |

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| | Create computer programs using the principles of structured programming and demonstrate the use of an IDE with appropriate libraries. Design, implement, test, and debug programs that use fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and functions. | | | | | |
| | Apply the principles of logical and programming concepts to develop solutions for gaming, business, scientific and mathematical problems. | | | | | |
| COURSE: | CIS-17A C++ Programming: Objects | | | | | |
| SLO 1 | Analyze and understand the Object-Oriented C++ environment. | | | | | |
| SLO 2 | Apply theoretical gaming, business, scientific, and mathematical concepts in writing and executing programs in the C++ language using Object-Oriented programming methodology. | | | | | |
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| COURSE: | GAM 31 Introduction to 3D Modeling | | | | | |
| SLO 1 | Apply the fundamental concepts of Poly Modeling for Game Simulation to create 3D models. | | | | I,D | I,D |
| SLO 2 | Apply industry standard modeling techniques as a result of comparative analysis of box modeling and extrusion techniques used in Game and Animation Models | | | | I | I,D |
| SLO 3 | Apply methods for UV unwrapping 3D props, vehicles, environments, and characters for use in Game Simulation and Animation. | | | | I,D | I,D |
| SLO 4 | Analyze the comparative differences of Animation Models constructed from NURBS or Sub-Ds. | | | | I | I,D |
| SLO 5 | | | | | | |

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| COURSE: | GAM 42 PhotoShop for Game Art and Animation | | | | | |
| SLO 1 | Complete projects in Adobe Photoshop using selections, layers and channels to create textures used in game art. | | | | I,D | I,D |
| SLO 2 | Apply college-level methods of critical analysis and synthesis in creating a game art project using Photoshop's digital painting methods and image manipulation. | | | | I,D | I,D |
| SLO 3 | Use Layers, Layer Styles, Adjustment Layers and Blending Modes. | | | | I,D | I,D |
| SLO 4 | Create custom texture maps for video games and animation software. | | | | I,D | I,D |
| SLO 5 | | | | | | |
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| COURSE: | GAM 47 Introduction to 3D Animation | | | | | |
| SLO 1 | Apply the Twelve Principles of Animation to assets in a 3D simulation environment. | | I | | I,D | I,D |
| SLO 2 | Evaluate the merits of various 3D modeling control schemes, and choose the most appropriate tools for a specified animation task. | | | | I | I,D |
| SLO 3 | Demonstrate competency using all of the commonly used tools for animation in a 3D simulation environment. | | | | I,D | I,D |
| SLO 4 | Successfully navigate and apply the graph editor to object and character animations. | | | | I | |
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