INTRODUCTION
With the increased use of mobile and tablet devices, the global video game market, valued at $78 Billion in 2012*, is experiencing unprecedented growth. Game designers and programmers are in higher demand than ever. As the industry grows and develops, so does our commitment to giving our students full access to the technology and leading information necessary for them to dive headfirst into this exciting area. Imagine working with cutting-edge technology to create one of the world’s newest and most popular forms of entertainment. Our Game Engineering Minor gives you that opportunity.

RESEARCH AT THE GAME INNOVATION LAB
The NYU Polytechnic School of Engineering’s Game Innovation Lab provides a dynamic and engaging environment for faculty and the students they mentor to conduct innovative interdisciplinary research on the technical/engineering/science side of games and simulations. Working with industry partners and research facilities internationally, the lab provides opportunities for graduate students (and a handful of advanced undergraduates) who aspire to challenge convention and break barriers within the industry. Sample projects include games with advanced user interface techniques (a surveillance camera-enabled public game, an award-winning smart-phone-based dance battle game), automatic rigging of 3D models, research on games for learning, and playful interfaces for security and authentication purposes.

CURRICULUM
The Game Engineering Minor emphasizes mastery of computer programming skills relevant to Game Engineering, combined with hands-on practice building games with others in studio-style courses, and electives drawn from NYU’s broad offerings in the games domain. Students are also expected to complete a prerequisite core curriculum in Computer Science (CS) to be well prepared for the other courses (or to demonstrate equivalent mastery).

*Reuters.com
COURSE DISTRIBUTION

The minor consists of 15 credits. Each course taken may fulfill either a core or an elective requirement.

Core
3 credits CS-UY 3113 Introduction to Game Programming (all students are required to take this course)

Studio Requirement (choose 1)
3 credits CS-UY 4553 Game Design
3 credits CS-UY 3233 Game Development Studio I (cross-listed between CS and Digital Media)
3 credits OART-1612 Game Development (Tisch School of the Arts Game Center)

Core Electives (choose 2)
Students must take two additional game engineering courses within the School of Engineering CS curriculum (or equivalent courses from other NYU departments—approval required).
3 credits CS-UY 4533 Interactive Computer Graphics
3 credits CS-UY 4613 Artificial Intelligence
3 credits CS-UY 4543 Human Computer Interaction
3 credits CS-UY 4553 Game Design (if not taken for studio requirement)

University-wide Electives (choose 1)
Students may take an additional Core Elective, or submit another Game Engineering-related elective for approval by the Director of the Game Engineering Minor as part of their minor. The Director of the Game Engineering Minor will maintain a list of currently approved electives. Here is a sample of relevant NYU-wide electives:
3 credits 3D Graphics Studio I in the School of Engineering’s Digital Media program
3 credits Introduction to Game Design, Game Development Project Studio, and Games 101 in the Tisch School of the Arts Game Center
3 credits Designing Simulations and Games for Learning in the Steinhart Digital Media and Design for Learning program
3 credits Social Multiplayer Games and Computer Games in the Courant Institute Computer Science Department

Prerequisites
Students are expected to complete a minimal core curriculum in Computer Science (CS) before enrolling in the minor (or demonstrate equivalent mastery), in order to be well prepared for the game engineering coursework, as well as a Calculus course. Students completing the minor from outside of the School of Engineering CS major program can request permission to apply a portion of these prerequisite credits to the overall credit total for the minor. At most six credits of the following courses may be applied to the minor (substituting for the University-wide elective and one of the Core electives), provided they or an equivalent course are not required as part of the student’s major.
4 credits CS-UY 1114 Introduction to Programming and Problem Solving
4 credits CS-UY 1124 Object Oriented Programming
4 credits CS-UY 2134 Data Structures and Algorithms