

GAME DESIGN & DEVELOPMENT

<http://games.rit.edu>

PROGRAM OVERVIEW FOR EMPLOYERS

The Rochester Institute of Technology offers world-renowned Bachelor's and Master's degrees in Game Design & Development within the B. Thomas Golisano College of Computing & Information Sciences. The programs rank in the national top 10 at the undergraduate level and the top 5 at the graduate level by the Princeton Review, and alumni from the program work at several major industry studios. The college also offers a minor in Game Design & Development to students in Computer & Information Sciences and a minor in Game Design to students campus-wide. The degrees were founded by Professor Andrew Phelps, Director of the School of Interactive Games & Media (IGM), in 2006 and 2007 respectively.

Students pursue an exceedingly rigorous and technically demanding curriculum to prepare for employment on game development teams in the games industry, or as designers in fields related to media-centric computing in a wide variety of applications, including real-time media systems, military simulation, and Collaborative Virtual Environments (CVE's). The degrees are focused on the complete development process, from engine construction through finished product, with an emphasis at each stage on design, proper development fundamentals, and aesthetics of the medium. Most upper-division and even some lower-division work is done in teams: students are expected to be both capable and diligent in the co-operative construction of their projects using industry standard processes and procedures.

Degree(s) Awarded

Bachelor of Science in Game Design & Development,
Master of Science in Game Design & Development,
Minor in Game Design & Development.

Enrollment

Approximately 170 students/yr. study game programming.

Cooperative Education Component

BS students are required to complete at least three co-op work assignments. Co-op students are able to work 3 or 6 month blocks, or other arrangements as negotiated. **Co-op is optional for graduate students.**

Salary Information – Avg/Range

Co-op:	\$14.31	\$7.50 - \$35.00
BS:	\$48,250	\$45,000 - \$50,000
MS:	\$71,000	\$62,000 - \$80,000

Equipment & Facilities

In addition to the exemplary computing facilities found throughout the College of Computing, the School of IGM provides students access to nine separate laboratory facilities. These labs are equipped with hardware from Alienware® updated each year to ensure a mix of several processor types, hardware configurations, the Adobe® and Autodesk® production suites, and graphics boards from competing vendors in a true development and testing environment, and other industry standard development tools.

Student Skills & Capabilities

Bachelor Students:

BS: By the end of the second year, students will have worked individually and collaboratively in C#, Unity, and ActionScript, developing a portfolio of game proposals and several projects. Students continue in their Junior and Senior years building games and engines from scratch using C++. A variety of courses cover game physics, tools development, 3D-modeling and animation, 2D and 3D graphics APIs, software practices, mobile development, advanced systems concepts, version control, and group management along with a variety of specialties that students can choose.

Master Students:

Students from a variety of technical backgrounds enter this program to delve more deeply into engine development and artificial intelligence topics. In addition, all graduate students pursue a 7-course sequence in game design and industry practices. They have a research oriented, production-based capstone experience that constitutes their thesis requirement. Student projects from both the undergraduate and graduate programs display yearly at the end-of-year IGM showcase.



Decade of Play: Promotional artwork from the celebration of 10 years of games-specific development courses at RIT, 2001-2011. This celebration was held as a part of our presence at the Game Developer's Conference 2010, which the program attends yearly to further engage with industry and alumni.

The following represents a short guide to the courses in the undergraduate degree. Courses in the graduate degree, as well as advanced topics in the Bachelor's degree are updated regularly at <http://games.rit.edu/>.

Core Requirements:

- Game Software Development I, II, and III
- Data Structures & Algorithms for Game Programmers I & II
- Fundamentals of Game Design & Development I & II
- Introduction to Interactive Media
- Programming Interactive Media
- Programming for Digital Media
- Web Site Design & Implementation
- Small & Home Office Networking Essentials
- Introduction to Database & Data Modeling
- Human Computer Interaction
- Design of the GUI
- Visual C++ for Programmers
- History of Animation
- Introduction to 3D Computer Animation

Advanced Core of Study:

- Computer Graphics I & II
- Foundations of 2D Graphics Programming
- Foundations of 3D Graphics Programming
- Procedural Shading
- Artificial Intelligence
- AI for Interactive Environments
- Computer Animation Algorithms & Techniques
- Multi-User Media Spaces
- Interactive Narrative
- ...and many more!

Employers of Game Design & Development Co-op and Graduating Students:

Activision, Amazon, Big Huge Games, Blindlight, Blizzard, Darkwind Media, Electronic Arts, Eidos, 1st Playable, FOX Interactive, Garage Games, Helix, High Moon Studios, Linden Lab, Maxis, Microsoft/XBOX, Net Devil, Nickelodeon, Northrup Grumman Undersea Systems, Public Broadcasting Station (PBS), Red Storm, Second Avenue Software, SONY Computer Entertainment of America (SCEA), SONY Online Entertainment (SOE), Squaresoft, The Collective, THQ, Valve, Vicarious Visions, Volition, Zephyr Games, Zynga, and many more!

Contact Us:

To get more information regarding the Game Design & Development programs please contact:

Professor Andrew Phelps, Director, School of Interactive Games & Media, College of Computing & Information Sciences 585.475.6758 Andrew.Phelps@mail.rit.edu, <http://games.rit.edu>

To learn more about hiring RIT co-op, graduating students or alumni: please call our office and ask to speak with **Annette Stewart**, Program Coordinator, Office of Cooperative Education & Career Services 585.475.5466 aksoce@rit.edu For your convenience, you can also access information and services through our web site at <http://www.rit.edu/recruit>.