Participation in the recitation is integral to success in GSND 5130. Requires students to familiarize themselves with statistical analysis software and to demonstrate their ability to use the software and statistics by analyzing an existing data set retrieved from a game study. Participation in the recitation is integral to success in GSND 5130.

GSND 5131. Business Models in the Game Industry. 1 Hour.
Examines the underlying business structure of the interactive digital entertainment industry and the characteristics of the various participants, notably developers and publishers. Seeks to deliver insight into key business models within the game industry and how the economic challenges interact. Explores the game business landscape across the industry spectrum, ranging from AAA, mobile, casual to indie development. Examines market strategies currently in practice and how they are linked with game analytics. Topics range from retail vs. online, free-to-play modes vs. pay-to-play, as well as basic monetization and distribution channels. Designed to serve as an overview of the various stakeholders in the industry and how they interact.

GSND 5132. Designing Games. 4 Hours.
Provides theoretical background and foundation for analyzing and designing games. Examines fundamental domains that are necessary to understand what games are and how they affect players, including but not limited to interface design, level design, narrative, learning, and culture. Presents relevant concepts and frameworks from a wide variety of disciplines—psychology, phenomenology, sociology, anthropology, media studies, affect theories, learning theories, and theories of motivation—for each domain. Explains the core elements of game design, introduces students to formal abstract design tools, explores several models of design process and iteration, and offers students an opportunity to practice game design in groups.

GSND 5133. Player Experience. 4 Hours.
Explores the process of designing new modalities of interaction utilizing novel uses of established technology, e.g., pervasive and affective technologies. Focuses on philosophy and practice of creating and evaluating experimental interactions. Recontextualizes gameplay concepts through permutations of basic elements such as controls, platforms, cameras, interfaces, etc. Leverages constraints as vehicles to push the boundaries of accepted design. Explores four key approaches to experimental interaction through course projects and assignments: discovering, examining, and exploring potential new technologies and interaction principles; rapidly designing and prototyping experimental interactions; pitching, justifying, and explaining designs and prototypes to others; and addressing new technologies and forms of interaction from a research perspective, focusing on their larger implications and potential impact on play.

GSND 5134. Exploratory Concept Design. 4 Hours.
Explores the development and understanding of spaces used by people in 3D and 2D virtual environments. Uses an iterative process of making, critical thinking, and evaluating spatial form, compositional ideas for form making; and critical thinking. Offers students an opportunity to develop the arbitrary, yet necessary, mind-set needed to make assumptions about aesthetic spatial values and expected player behaviors. Analyzes the connection between spatial-aesthetic elements and their effects on players’ psyches. Experiments with how spaces, textures, shapes, and colors can support different synchronous moods. Explores how to shape spaces that fit the rational, emotional, and behavioral profile of different types of players. Applies concepts learned from architecture and game-level design to extend students’ creative and critical abilities.

GSND 5135. Exploratory Concept Design. 4 Hours.
Explores theories of play from different perspectives, including game play behavior, psychological principles, and theory. Examines psychological principles, including visual and audio perception, emotions, behavior, personality, and the more recent scientific discoveries around psychological models explaining play behavior or motivation theories behind play. Introduces how players learn in and from games based on the relationship of play to learning theories. Forms a solid theoretical basis for a new segmentation tool—psychographics. Explores visual and cultural archetypes, digging into comics, movie sets, and cartoons to distillate what makes people tick in certain ways relating to universal theories of perception and gestalt theories. Applies the theories through critical analysis of play behavior and games.

GSND 5136. Player Experience. 4 Hours.
Explores topics of player psychology—cognition; memory; emotions; attention; and game-focused theories such as engagement, fun, user experience, player-need-satisfaction model, and flow. The development cycle of any game relies on the understanding of the players, the target market of the game product. Covers game usability engineering and game-specific evaluation methods, such as play testing, rapid iterative testing and evaluation (RITE), play-heuristic evaluation, and retrospective play reviews. Offers students an opportunity to learn how to analyze qualitative and quantitative data and to apply parametric and nonparametric statistical evaluation methods, qualitative data coding and analysis, and descriptive statistics. Requires students to apply visualization techniques of data and reporting.
GSND 6331. Recitation for GSND 6330. 0 Hours.
Requires students to familiarize themselves with survey instruments and data visualization techniques. Participation in the recitation is integral to success in GSND 6330.

GSND 6340. Biometrics for Design. 4 Hours.
Covers the domain of psychophysiological testing. Introduces theory and research in major areas of human psychology, including cognition, emotions, and attention. Studies the principles, theory, and applications of psychophysiological assessment inside and outside interactive digital entertainment. Offers students an opportunity to understand the basics of eye tracking—eye movements, fixations, saccades. Applies methods of data collection, cleaning, and analysis for both physiological and eye-tracking data. Covers all issues of using such measurements, including validity of conclusions and confounding variables. Covers the process of triangulation and reporting in-depth along the entire process of the game production life cycle.

GSND 6350. Data-Driven Player Modeling. 4 Hours.
Introduces the topic of game analytics, defined as the process of discovering and communicating patterns in data with a goal of solving problems and developing predictions in user behavior supporting decision management, driving action, and/or improving game products. Covers the fundamental tools, methods, and principles of game analytics, including the knowledge-discovery process, data collection, feature extraction and selection, pattern recognition to aid in prediction and churn analysis, visualization, and reporting. Covers analytics across game forms, notably online games and delivery platforms. Presents analytical tools recommended during development and tools designed for ongoing maintenance of games.

GSND 6984. Research. 1-4 Hours.
Offers students an opportunity to conduct research under faculty supervision. May be repeated up to four times.

GSND 7976. Directed Study. 1-4 Hours.
Offers independent work under the direction of members of the department on chosen topics. May be repeated without limit.

GSND 7990. Thesis. 4 Hours.
Focuses on preparing a master’s thesis under faculty supervision.

GSND 7996. Thesis Continuation. 0 Hours.
Offers continued work on the thesis project.