

<b>Sophomore Year</b>		<b>Fall</b>	<b>Spring</b>
TOYD200/201	Toy Design I/II	3.0	3.0
TOYD220/221	Drawing I/II	2.0	2.0
TOYD230	2-D Visualization	2.0	--
TOYD231	3-D Visualization I	--	2.0
TOYD240/241	Model Making I/II	2.0	2.0
TOYD250/251	Methods and Materials of Production I/II	2.0	2.0
TOYD261	Conceptual Problem Solving and Brainstorming	--	2.0
SSCI211	Child Psychology	3.0	--
ENGL202 *	Sophomore English	3.0	--
ILML 200 *	Integrated Learning Lecture	--	3.0
Credits per Semester		17.0	16.0
<b>Junior Year</b>		<b>Fall</b>	<b>Spring</b>
TOYD300/301	Toy Design III/IV	4.0	4.0
TOYD320/321	Drawing III/IV	2.0	2.0
TOYD330/331	3-D Visualization II/III	2.0	2.0
TOYD340	Model Making III	3.0	--
TOYD455 **	Portfolio Development	--	2.0
ILMS300 *	Integrated Learning Studio	2.0	--
MATH 136	Math for Artists and Designers	--	3.0
AHCS236	History of Toys	--	3.0
AHCS220	Contemporary Issues	3.0	--
Credits per Semester		16.0	16.0
<b>Senior Year</b>		<b>Fall</b>	<b>Spring</b>
TOYD400/401	Toy Design V/VI	4.0	4.0
TOYD415 ***	Career Development	2.0	--
TOYD420/421	Drawing V/VI	2.0	2.0
TOYD425	Games and Game Theory	2.0	--
TOYD430	Package Design	--	2.0
TOYD450	Toy Industry Practices	2.0	--
LIBS454	Business Practices	--	2.0
NSCI308	Juvenile Anatomy and Ergonomics	3.0	--
LIBS410/ENGL400	Advanced Topics in English or Liberal Studies Elective	--	3.0
AHCS 310 *	Art History Elective	3.0	--
LIBS 440 *	Senior Liberal Studies Capstone	--	3.0
Credits per Semester		18.0	16.0

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## **Toy Design I/II**

TOYD200/201 — 3 credits/3 credits

In these courses, students develop an understanding of the creative process of toy design. Emphasis is placed on developing toys that engage children in what is referred to in the toy industry as “play patterns.” Students apply skills in drawing, model making, and fabrication to create original toys that engage children in imaginative play and shape developmental skills and decision-making, socialization, and creativity. Students learn to conduct market research and analysis to insure that their designs are appropriate for the category of toys they are designing. Using various fabrication techniques, students will translate their idea into 3-D models, and present the final products to faculty and visiting toy industry professionals.

*Prerequisite: TOYD200 is a prerequisite for TOYD201.*  
*Lab Fee: \$50*

## **Drawing I**

TOYD220 — 2 credits

The purpose of this class is for students to become fully articulate in a new drawing language called Visual Communication. To communicate effectively, a designer needs to have at their disposal a broad range of drawing skills. Students spend the semester becoming familiar with the principles of perspective and more importantly, they learn the useful particulars and shortcuts pertaining to sketching.

## **Drawing II**

TOYD221 — 2 credits

This second semester course is an introduction to the theory and practice of sketching, drawing, and rendering techniques as applied to toy product. Focus is on rapid visual sketching as well as marker rendering, which enable the designer to convey information about surface characteristics such as color, texture, and material.

*Prerequisite: TOYD 220 Drawing I.*

## **2-D Visualization**

TOYD230 — 2 credits

In this course, students acquire the skills necessary to take a concept from a rough sketch to a refined set of technical illustrations. Students will learn to produce illustrations accurately that will convey their design intent and serve as a blueprint when creating a prototype model. The students are introduced to the basic drawing tools in Adobe Illustrator. The skills learned during this course will continue to be utilized throughout the remainder of the Toy Design studio courses.

*Prerequisite: TOYD221 Drawing II.*

## **3-D Visualization I**

TOYD231 — 2 credits

This class examines the computer as a means to construct and render an idea via 3-D modeling, and then to output that information for computer aided rapid prototyping. It introduces computer-aided design (CAD) programs as toy design tools. Students start with Rhino, a 3-D modeling program that emphasizes the 3-D construction and surface rendering of ideas and output to the rapid prototyping machine.

*Prerequisite: TOYD 230 2-D Visualization.*

## **Model Making I**

TOYD240 — 2 credits

This course introduces students to plastic fabrication and prototyping concepts through the use of various methods.

*Open to Toy Design majors only.*

*Lab Fee: \$245*

## **Model Making II**

TOYD241 — 2 credits

This course teaches the basics of sculpting licensed characters from 2-D turnaround drawings. Students then learn to make molds of the sculpted figures, to cast them in resin, and then to paint the cast figures.

*Prerequisite: TOYD240 Model Making I.*

*Open to Toy Design majors only.*

*Lab Fee: \$100*

**Methods and Materials of Production I**

TOYD250 — 2 credits

Materials used for manufacturing within the industry are important because they determine the durability and safety of toys, the use of toys by consumers, and the methods and costs of production. Each of these issues must be considered in order to successfully design and market a toy. This course focuses on different manufacturing processes as well as the understanding and use of materials in toy design. Of special interest are issues regarding sustainability.

**Methods and Materials of Production II**TOYD251 — 2 credits 

This second-semester course explores more advanced manufacturing processes and materials. Discussion focuses on the fundamentals of plastic components and design, exploring the possibilities and limitations associated with plastic toy components. Of special interest are issues regarding sustainability.

*Prerequisite:* TOYD250 *Methods and Materials I.*

**Conceptual Problem Solving and Brainstorming**

TOYD261 — 2 credits

Brainstorming is an essential part of the toy design process; therefore, this class emphasizes creativity through brainstorming techniques. Additional focus is on cobbling up quick toy ideas, given a specific design category.

*Prerequisite:* TOYD 200 *Toy Design I.*

**Toy Design III/IV**

TOYD300/301 — 4 credits/4 credits

In these courses, students will expand on and apply principles they have learned in Toy Design I and II to create original toys that can be expanded to become a toy brand with line extensions. Students will utilize analog and digital drawing skills, technology including digital design software for rapid prototyping, and explore methods of fabrication using a variety of materials. Students will learn the most effective methods of presenting their toy concepts visually, demonstrating new features digitally when it is the most effective way of communicating play patterns and function. Corporate sponsored projects may occur during either semester, but regardless, critiques will include visiting toy industry professionals.

*Prerequisite:* TOYD200/201 *Toy Design III.*

**Drawing III**

TOYD320 — 2 credits

Students focus on the full understanding of material indication. Topics covered include concept sketching, composition, layout, perspective drawing, using sketching as a design tool, and understanding and rendering reflective forms.

*Prerequisite:* TOYD221 *Drawing II.*

**Drawing IV**

TOYD321 — 2 credits

This course introduces the computer as a digital tool, building upon sketching and rendering techniques learned in previous drawing classes.

*Prerequisite:* TOYD320 *Drawing III.*

**3-D Visualization II**

TOYD330 — 2 credits

A more advanced version of 3-D Visualization I, this course continues the use of Rhino, the 3-D modeling program used in the construction of prototyping models. By using computer-aided design (CAD) programs (the same as in the toy industry), students learn advanced modeling and prototyping techniques. Students will be introduced to Studio MAX for several styles of rendering and basic animation skills. This course combines instruction on the computer with guidance in the standard requirements for the production of 3-D models through output to the rapid prototyping machine.

*Prerequisite:* TOYD231 *3-D Visualization I.*

**3-D Visualization III**

TOYD331 — 2 credits

This is an advanced computer lab course that allows students to continue to develop their 3-D modeling skills with Rhino and learn more advanced modeling techniques. Students will continue to develop their Studio MAX skills with more advanced rendering and animation skills. The course will introduce Adobe After Effects as a means to create more compelling digital video presentations with animation, titles, sound effects, and transitions. Content focuses on the advanced use of computer programs to output models for ongoing projects. Students apply acquired learning to improve toy design projects for use in their portfolios.

*Prerequisite:* TOYD330 *3-D Visualization II.*

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## **Model Making III**

TOYD340 — 3 credits

This course focuses on advanced model making skills and techniques involving the lathe and milling machine with an emphasis on the issues and problems related to the projects developed in Toy Design III. Also included is an emphasis on advanced sculpting, molding, casting techniques, and building articulated armatures for action figures.

*Prerequisite:* TOYD241 Model Making II.

*Lab Fee:* \$150

## **Portfolio Development**

TOYD455 — 2 credits

This course concentrates on the organization and presentation of the student's portfolio. Additional attention is given to interviewing skills and techniques. Students will also develop a promo sheet and resume. All work will be presented in both analog and digital formats.

*Prerequisite:* TOYD201 Toy Design II.

## **Toy Design V/VI**

TOYD400/401 — 4 credits/4 credits

These courses are advanced level courses in which students continue in their development of conceptual, technical, and creative skills and methodologies relating to toy design. Emphasis is placed on identifying future trends and technology and integrating them into the toy design process. Students will have been exposed to the unique and different categories of toys and children's products, and how those products are part of larger brands and entertainment properties. Corporate-sponsored projects may occur during either semester, but regardless, critiques will include visiting toy industry professionals. The students may have had the opportunity to participate in summer internships where they gained "real world" experience, and will be able to apply that learning as well as their classroom experience to design and prepare their senior show. A showcase of students' talents, senior shows are held at the end of the spring semester.

*Prerequisite:* TOYD300/301 Toy Design III/IV.

## **Career Development**

TOYD415 2 credits

This course will cover interviewing skills, research and targeting potential job prospects, and preparation of oral and written communications.

*Prerequisite:* TOYD455 Portfolio Development.

## **Drawing V**

TOYD420 — 2 credits

Understanding of form and material indication from the previous semester is now executed in full color. The course starts with the application of color to backgrounds and other simple elements used in concept sketching. By the end of the course, students are rendering at photo-realistic levels using the computer as a digital tool. Students learn how to render a toy of their own design in full color at a professional level.

*Prerequisite:* TOYD321 Drawing IV.

## **Drawing VI**

TOYD421 — 2 credits

This is an advanced computer lab course that allows students to apply their knowledge from prior drawing classes to ongoing projects in an effort to build their portfolios.

*Prerequisite:* TOYD420 Drawing V.

## **Games and Game Theory**

TOYD425 — 2 credits

This course focuses on game theory from a behavioral science perspective, and applies that perspective to an understanding of a variety of games. The course includes a historical and cross-cultural emphasis. Students create an original game.

*Prerequisite:* TOYD301 Toy Design IV.

## **Package Design**

TOYD430 — 2 credits

Package design focuses on creating three-dimensional solutions to solve a variety of packaging and retail problems. In addition to marketing issues, package design addresses a variety of storage and safety concerns. The students address these issues as well as the graphic treatment of the package. Of special interest are issues regarding sustainability.

*Prerequisite:* TOYD400 Toy Design V.

## **Toy Industry Practices**

TOYD450 — 2 credits

This course provides an introduction to marketing and product management within the toy industry. Discussion focuses on the four guiding principals of brand management: product, packaging, placement, and promotion. Various topics include consumer behavior, market research, product design, pricing, retail sales, merchandising, advertising, and promotions.

*Prerequisite:* TOYD400 Toy Design V.

**Independent Study**

TOYD999 — 1–6 credits

Independent studies provide an opportunity for students to work closely and collaboratively with faculty on assignments that extend the scope of their current interests, or expand their expertise. Applications for independent study projects are reviewed and approved by the Department Chair based on proposals submitted by interested students.

**Special Topics: 3–D Visualization IV**

TOYD460 — 2 credits

This elective class is designed as an advanced computer class for senior Toy Design students, where they will explore open-ended projects of their own design, building on skills from prior classes in 3–D Visualization III. Students will explore advanced techniques of design with Rhino using the software itself as well as specialized plug-ins such as T-Splines for modeling and V-Ray for rendering. The class will also cover techniques and strategies for post processing of renderings in Photoshop, allowing students to work faster and smarter in a professional production environment.

*Prerequisite: TOYD 331 3–D Visualization III.*