ART 500 CERAMIC RAW MATERIALS (3)
Lecture and laboratory investigation of ceramic materials as they apply to glazes, clay slips and clay bodies. Tests and problems in ceramic raw materials. Prerequisite: ART 309, ART 310 or equivalent.

ART 507 MATERIALS: CONCEPT AND PROCESS (3)
Examination of the properties and characteristics of materials and methodology in the design and creation of objects through lecture, demonstration and directed studio problems. Prerequisite: ART 218, ART 231, or consent of instructor.

ART 508 CERAMICS: SCULPTURE (3)
Studio experience using a variety of ceramic techniques. Problems in sculptural directions for students' experiences in handbuilding and the potter's wheel. Prerequisite: ART 310 or consent of instructor.

ART 513 ELECTROFORMING AND ENAMELING (3)
Lecture, demonstration, directed studio problems in the electroforming process, continued investigation of vitreous enameling; enameling 3 dimensional form, new, alternative and experimental techniques. Prerequisite: ART 313 or consent of instructor.

ART 514 ADVANCED STUDIO (2-3)
Independent work for advanced students in field of special interest. Prerequisite: Must have exhausted other courses in particular field or obtained written consent of instructor. Student must make arrangements in advance of registration with instructor of choice.

ART 515 ADVANCED STUDIO (2-3)
Independent work for advanced students in field of special interest. Prerequisite: Must have exhausted other courses in particular field or obtained written consent of instructor. Student must make arrangements in advance of registration with instructor of choice.

ART 516 ADVANCED STUDIO (2-3)
Independent work for advanced students in field of special interest. Prerequisite: Must have exhausted other courses in particular field or obtained written consent of instructor. Student must make arrangements in advance of registration with instructor of choice.

ART 518 JEWELRY II (3)
Intermediate design and studio experience. Directed problems in the techniques of metal construction, forging, stone setting and cold joinery. Prerequisite: ART 318.

ART 519 HOLLOWWARE AND FORGING (3)
Advanced lecture, demonstration and directed studio problems in hollowware and flatware focusing on raising, seaming, fabrication, and forging techniques for silver and non-ferrous metals. Prerequisites: Art 218, Metals and Jewelry I.

ART 520 CASTING: MATERIALS AND PROCESS (3)
Lecture, demonstration, directed studio problems in the casting process; traditional lost wax bronze casting, RTV mold making, casting new, alternative and experimental materials. Prerequisites: ART 218.

ART 522 DESIGNING FOR PRODUCTION (3)
Experience designing and manufacturing multiples. Historical and contemporary object production and production methodologies. Various aspects of business, pricing, market analysis. Prerequisites: ART 319, ART 418.

ART 523 DESIGN AND SOCIAL ENTREPRENEURSHIP (3)
Examination of the cross-disciplinary social design movement. Using the design process, students identify and address social issues in studio work. Emphasis on interdisciplinary work. Examination of social entrepreneurship. Prerequisites: Consent of instructor.

ART 529 PAINTING IV (3)
Continued studio experience for advanced students, with emphasis on personal direction. May be repeated for a maximum of 9 total credits. Prerequisite: ART 336.

ART 534 PHOTO IMAGING-CONCEPTS I (3)
The aesthetic of black and white image making using advanced analog and electronic imaging techniques. Prerequisite: ART 236, Photo Imaging-Light, ART 237 Photo Imaging-Alternative process, ART 238 Photo Imaging-Motion, ART 259 Photo Imaging-Digital I.

ART 535 PHOTO IMAGING-CONCEPT II (3)
Aesthetic of color image making using advanced analog, alternative/ mixed media and electronic imaging techniques. Prerequisite: ART 334(534) Photo Imaging-Concepts I.

ART 536 PHOTO IMAGING-PORTFOLIO (3)
Portfolio construction using advanced analog, alternative/mixed media, and electronic imaging technology. May be repeated for up to 9 units. Prerequisites: ART 334, ART 335, ART 421; may be taken concurrently with ART 421.

ART 537 PHOTO IMAGING-MOTION (3)
Focus on interactive design and media theory through research, studio practice and discussion. Utilizes software applications with emphasis on conceptual process, image processing and usability. Prerequisite: Art 365.

ART 547 SCREEN PROCESS II (3)

ART 549 RELIEF PROCESS II (3)
Traditional and experimental processes. Advanced color assignments using oil and water-based inks.

ART 553 PHOTO IMAGING-CONCEPT II (3)
Advanced printing including stone-plate and photo plate. Multiple color printing. Prerequisite: ART 353 or consent of instructor.

ART 554 PHOTO IMAGING-CONCEPTS II (3)
Using technology to link printmaking to digital, photo and Xerox images. Prerequisite: ART 217.

ART 556 ARTIST BOOKS (3)
Exploration of book making and the book as an art form. Individual projects highlighting aspects of artist books, discussion and critiques. Prerequisites: ART 211.

ART 557 GRAPHIC DESIGN III (3)
Problems in graphic communication on the Macintosh computer, emphasizing individual portfolio development. Prerequisite: ART 417.

ART 561 DIGITAL OBJECT DESIGN II (3)
Intermediate and advanced lecture, demonstration, studio problems in digital 3D modeling and rendering introduction to computer aided machining and rapid prototyping. Prerequisites: ART 361, Digital Object Design.
ART 573 ILLUSTRATION II (3)
Continued studio experience in illustration and development of personal approaches in various media. Emphasis on practicing professional assignments and preparing portfolio. Prerequisite: ART 373 or equivalent.

ART 578 NEW DIRECTIONS IN PAINTING, EXPERIMENTAL MEDIA AND ART I (3)
Continued studio experience: for advanced student with emphasis on personal direction. Prerequisite: Permission of instructor.

ART 602 ELEMENTS OF VISUAL DESIGN (3)
Creative process and research of elements and principles of visual design, design thinking, and color theory explored through a variety of visual digital processes. Prerequisite: acceptance in the Interactive Media Design Certificate Program or consent of the IAMD program director.

ART 608 GRADUATE CERAMICS I (3)
Advanced problems in selected ceramic areas. Repeatable for a maximum of 6 credits with consent of program director and instructor.

ART 610 ELEMENTS OF WWW DESIGN (3)
Production techniques and research as related to digital imaging, electronic page layout and WWW design.

ART 611 GRADUATE DRAWING I (3)
Studio problems in expressive drawing. Repeatable for a maximum of 6 units with consent of program director and instructor. Prerequisite: ART 211 or consent of instructor.

ART 614 GRADUATE STUDIO (2-3)
Independent work for graduate students in field of special interest. Prerequisite: all courses in field completed and written consent of instructor.

ART 615 GRADUATE STUDIO (2-3)
Independent work for graduate students in field of special interest. Prerequisite: All courses in field completed and written consent of instructor.

ART 616 GRADUATE STUDIO (2-3)
Independent work for graduate students in field of special interest. Prerequisite: All courses in field completed and written consent of instructor.

ART 618 GRADUATE JEWELRY I (3)
Studio problems in shell construction, stone setting and mechanical joinery. Repeatable for a maximum of 6 units with consent of program director and instructor. Prerequisite: ART 418 or consent of instructor.

ART 620 GRADUATE TYPOGRAPHY (3)
Studio problems in the theory, concepts and aesthetics of type. Repeatable for a maximum of 6 units with consent of program director and instructor. Prerequisite: ART 610 is recommended.

ART 622 GRADUATE EXHIBITION DESIGN (3)
Theory, concepts, planning, management, design and installation of art exhibits. Application for professional artists. Prerequisite: Graduate standing.

ART 629 GRADUATE PAINTING I (3)
Studio problems in painting: current trends, museum visits and lectures. Repeatable for a maximum of 6 units with consent of program director and instructor. Prerequisite: ART 229 or equivalent.

ART 630 WATERCOLOR (3)
Trends and outstanding painters and styles. Studio work, museum visits and lectures. Repeatable for a maximum of 6 credits with consent of program director and instructor. Prerequisite: ART 331 or consent of instructor.

ART 634 GRADUATE PHOTOGRAPHY I (3)
Studio problems emphasizing personal investigation of the photographic medium as an art form. Repeatable for a maximum of 6 credits with consent of program director and instructor. Prerequisite: ART 334 and consent of instructor.

ART 635 GRADUATE EXPERIMENTAL DIRECTIONS (3)
Conceptual, installation and performance art; studio projects. Repeatable for a maximum of 6 units with consent of program director and instructor. Prerequisite: Consent of instructor.

ART 640 GRADUATE SCULPTURE I (3)
Studio problems in selected sculptural areas. Repeatable for a maximum of 6 credits with consent of program director and instructor. Prerequisite: ART 340, ART 241, ART 339, ART 342, or any 400-level course; or consent of instructor.

ART 641 INTERACTIVE MEDIA CONCEPT AND THEORY (3)
Advanced study of multimedia concept, theory and aesthetics including research and studio application. Repeatable for a maximum of 6 credits with consent of program director and instructor. Prerequisite: ART 610 is recommended.

ART 650 GRADUATE INTAGLIO, RELIEF I (3)
Studio problems in intaglio and/or relief processes, including mixed media. Repeatable for a maximum of 6 credits with consent of program director and instructor. Prerequisite: ART 349, ART 449 or equivalent.

ART 653 GRAPHICS: LITHOGRAPHY, SERIGRAPHY (3)
Studio work for artists with knowledge of lithography and/or serigraphy, Repeatable for a maximum of 6 credits with consent of program director and instructor. Prerequisite: ART 347, or ART 450 or equivalent.

ART 661 DIGITAL OBJECT DESIGN I (3)
Focuses on graduate level research and advancement in 3D digital modeling with a focus on the larger context of digital object design, the influence on cultural objects, cultural production, and aesthetics. May be repeated for a maximum of 6 units. Prerequisite: ART 361.

ART 665 GRADUATE INFORMATION + INTERFACE DESIGN (3)
Introduction to information architecture and user interface design for interactive media applied art and design applications. Design projects and research with a focus on current interactive media design concept and theory. Prerequisite: ART 610 or consent of instructor.

ART 671 GRADUATE PROGRAMMING FOR DESIGN (3)
Investigation and research of programming for design applications. Basic to advanced script language projects with a focus on current art design concept and theory. Prerequisite: ART 610 or consent of instructor.

ART 673 GRADUATE ILLUSTRATION I (3)
Studio problems in the concepts and techniques of objectives rendering, expressive painting and sequential imagery. Repeatable for a maximum of 6 credits with consent of program director and instructor. Prerequisite: ART 473 or consent of instructor.

ART 675 GRADUATE SIMULATION DESIGN (3)
Introduction to the concept and theory of simulation design including applied projects designing simulation objects, virtual environments and scripted content. Prerequisite: ART 610 or consent of instructor.

ART 678 NEW DIRECTIONS IN PAINTING, EXPERIMENTAL MEDIA AND ART II (3)
Continued studio experience: for advanced student with emphasis on personal direction. Prerequisite: Permission of instructor.
ART 685 GRADUATE INFORMATION + INTERFACE DESIGN II (3)
Advanced projects and research in information architecture, user interface design and usability for interactive media design applications. Prerequisites: ART 665 or consent of instructor.

ART 694 GRADUATE TRAVEL STUDY (3-6)
Global experiences in art. Selected graduate-level research and studio problems in area of special interest. Location and topics to be announced one year prior to travel experience. Course may be repeated. Prerequisite: TU Graduate School acceptance interview and consent of instructor.

ART 711 GRADUATE DRAWING II (3)
Studio problems in selected drawing areas: awareness, imagination and craftsmanship. Prerequisite: ART 611.

ART 715 MFA STUDIO I (3)
Independent problems in art. May be repeated for additional credit with art adviser consent. Prerequisites: M.F.A. status and written consent of art adviser.

ART 720 GRADUATE GRAPHIC DESIGN II: PORTFOLIO (3)
Studio problems in professional portfolio presentation. Prerequisite: ART 620 or consent of instructor.

ART 729 GRADUATE PAINTING II (3)
Studio problems in selected painting areas: watercolor, oil and other media. Prerequisite: ART 629.

ART 734 GRADUATE PHOTOGRAPHY II (3)
Studio problems in selected areas of photography with an emphasis on personal investigation of mixed media. Prerequisite: ART 634.

ART 740 GRADUATE SCULPTURE II (3)
Studio problems in selected sculptural areas. Prerequisite: ART 640 or consent of instructor.

ART 750 GRADUATE INTAGLIO, RELIEF II (3)
Studio problems in selected printmaking areas: etching, drypoint, aquatint, photo engraving, embossing, collographs, woodcuts, linoleum, wood engraving and subtractive relief. Prerequisite: ART 650.

ART 761 DIGITAL OBJECT DESIGN II (3)
Advanced independent studio work in digital 3D modeling, rendering, and rapid prototyping and manufacture. May be repeated for a maximum of 6 units. Prerequisite: ART 661.

ART 765 GRADUATE DESIGN FOR THE WWW (3)
Authoring techniques and research as related to interactivity, information design and digital imaging. Repeatable for a maximum of 6 units with consent of program director and instructor. Prerequisite: ART 610.

ART 766 ADVANCED PROJECTS IN WWW DESIGN (3)
Focus is on current web layout technologies, web standards, usability and research as related to interactivity, and information design. Prerequisite: ART 765.

ART 781 GRADUATE ILLUSTRATION II (3)
Studio problems in location drawing, figure and costume, experimental media, manuscript interpretation and portfolio analysis. Prerequisite: ART 673.

ART 782 ART TOPICS (3)
Visiting instructor teaching contemporary issues in art with written presentations, critiques, and discussions. May be repeated for a maximum of 9 units. Prerequisite: acceptance into the graduate program.

ART 783 MFA SEMINAR (3)
Lectures and discussions on the contemporary art scene, aesthetics and art concepts. Oral and written presentations, gallery/museum/studio visits included. Prerequisite: M.F.A. candidate.