961. Convergence of Measures and Stochastic Processes  
Fall of even-numbered years. (3-0)  
P: STT 882.  

962. Stationary and Second Order Processes  
Spring of odd-numbered years. (3-0)  
P: STT 882.  
Stationary, second order, and Gaussian processes. Sample path properties. Linear and nonlinear prediction and estimation. Applications.  

963. Martingales  
Fall of odd-numbered years. (3-0)  
P: STT 882.  
Discrete and continuous time martingales, convergence theorems, Doob-Meyer decomposition. Applications.  

964. Stochastic Analysis  
Spring of even-numbered years. (3-0)  
P: STT 882.  

990. Problems in Statistics and Probability  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: STT 872.  
Individual study on an advanced topic in statistics or probability.  

995. Topics in Statistics and Probability  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 24 credits in all enrollments for this course.  
P: STT 882.  
Nonparametric statistics, multivariate analysis, time series analysis, Bayesian statistics, reliability theory, stochastic approximation, design of experiments, sets of decision problems, stochastic processes, or sequential analysis.  

999. Doctoral Dissertation Research  
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 48 credits in all enrollments for this course.  
P: Approval of department.  

STUDIO ART  
STA  

Department of Art  
College of Arts and Letters  

110. Drawing I  
Fall, Spring. (3-0)  
Fundamental concepts of drawing. Emphasis on observational, descriptive and analytical drawing. Practice of drawing skills using common drawing media.  

111. Drawing II  
Fall, Spring. (3-0)  
P: STA 110.  
Emphasis on development of personal imagery and expression. Introduction of the means of abstraction and of the use of the human figure as subject matter.  

113. Color and Design  
Fall, Spring. (3-0)  
Basic elements of two-dimensional design. Principles of organization and the theory and practice of color as a basis for creative solutions for the problems of the artist and designer.  

114. Three-Dimensional Form  
Fall, Spring. (3-0)  
Formal elements of three-dimensional form. Application of the principles of organization as a means for producing creative solutions for the artist and designer. Related practical experience with a variety of materials and processes.  

200. Intermediate Drawing  
Fall, Spring. (3-0)  
P: STA 111, STA 113, STA 114.  
Observational and imaginative drawing including the human figure. Non-representational drawing. Contemporary drawing systems, concepts, and process.  

300. Time-Space-Motion-Sound  
Spring. (3-0)  
P: STA 300. R: Not open to freshmen and sophomores.  
Multi-dimensional forms of artistic expression and their interrelationships. Theory and exploration.  

320. Painting I  
Fall, Spring. (3-0)  
P: STA 111, STA 113, STA 114.  
Representational painting of landscape, figure, and still life imagery. Painting concepts, materials, and techniques.  

321. Painting II  
Fall, Spring. (3-0)  
P: STA 320.  
Continuation of representational painting, and introduction to non-representational painting and concepts.  

340. Ceramics I  
Fall, Spring. (3-0)  
P: STA 111, STA 113, STA 114.  
Ceramic processes including handbuilding, glaze formulation, and kiln firing.  

345. Ceramics II  
Fall, Spring. (3-0)  
P: STA 340.  
Advanced applications of ceramic forming and kiln firing techniques including handbuilding, glaze formulation, mold making, casting, and wheel throwing.  

350. Figure Modeling  
Fall, Spring. (3-0)  
P: STA 111, STA 113, STA 114.  
Modeling human and natural forms.  

351. Collage, Mixed Media, Assemblage  
Fall, Spring. (3-0)  
P: STA 111, STA 113, STA 114.  
Exploration of artistic expression using collage, mixed media, and assemblage techniques.  

352. Casting  
Fall, Spring. (3-0)  
P: STA 111, STA 113, STA 114.  
Casting concepts and techniques as a means of artistic expression.  

355. Construction and Fabrication  
Fall, Spring. (3-0)  
P: STA 111, STA 113, STA 114.  
Sculptural concepts using methods of construction and fabrication as an approach to artistic expression.  

360. Graphic Design  
Fall, Spring. (3-0)  
P: STA 111, STA 113, STA 114.  
Graphic signs and symbols used in visual communication. Application of design principles to experimental and practical problem solving.  

370. Photography  
Fall, Spring. (4-2)  
P: STA 111, STA 113, STA 114.  
History and basic technology of black and white photography, integrative camerawork, and darkroom processing. Issues in photographic aesthetics. Students furnish camera and all materials.  

380. Art for Early Childhood and Elementary Education  
Fall, Spring. (3-1)  
R: Not open to freshmen and sophomores. Not open to students in the Department of Art. Creative art experience and its application for children. Children's growth and development in art. Studio activities, readings, and discussion.  

391. Learning Strategies, Concepts, Resources and Materials for Art Education  
Spring. (4-0)  
R: Not open to freshmen and sophomores. Open only to majors in the Department of Art with a teacher certification option. Children's growth and development in art. Concepts, processes, and materials applied to art teaching. Writing assignments and field trips required.  

400. Advanced Drawing  
Fall, Spring. (4-0)  
P: STA 300.  
Drawing with an emphasis on a wide range of current drawing concepts, materials, and techniques. Advanced non-representational drawing. Application to individual thematic development.  

405. Metalsmithing  
Fall of even-numbered years. (4-0)  
P: STA 111, STA 113, STA 114.  
Forming, joining, finishing and embellishing processes for metals to create small sculpture or jewelry.  

407. Art in London  
Summer. (3-0)  
P: STA 111, STA 113, STA 114.  
Study in London, England, of a variety of art disciplines. Visits to museums, galleries, monuments and other relevant sites, with some field trips away from the city. Meetings with artists.  

420. Painting  
Fall, Spring. (4-0)  
A student may earn a maximum of 20 credits in all enrollments for this course.  
P: STA 325.  
Advanced applications of painting concepts, styles and techniques. Consideration of the language of contemporary painting.  

430. Relief Printing  
Fall, Spring. (4-0)  
A student may earn a maximum of 20 credits in all enrollments for this course.  
P: STA 300 or STA 320.  
Theory and practice of relief prints including additive methods, intaglio and woodcut.  

431. Screen Printing  
Fall, Spring. (4-0)  
A student may earn a maximum of 20 credits in all enrollments for this course.  
P: STA 300 or STA 320.  
Screen printing as a fine art print medium. Theory and techniques as a means to creative and expressive imagery.  

432. Lithography  
Fall, Spring. (4-0)  
A student may earn a maximum of 20 credits in all enrollments for this course.  
P: STA 300 or STA 320.  
Lithographic process as an artistic medium. Techniques of the medium. Preparing the plate or stone, printing, and using tusche, wash and rubbing as a means to creative imagery.
433. Intaglio
Fall, Spring. 4(0-8) A student may earn a maximum of 20 credits in all enrollments for this course. P: STA 350 or STA 351. Aesthetic principles and techniques such as line etching, soft ground, aquatint, dry point, wax resist, collagraph, and monoprints.

435. Handmade Paper
Spring of odd-numbered years. 4(0-8) A student may earn a maximum of 20 credits in all enrollments for this course. P: STA 350 or STA 351. Handmade paper as an art form. Basic techniques including lamination, layering, folding, and vacuum forming.

440. Ceramics
Fall, Spring. 4(0-8) A student may earn a maximum of 20 credits in all enrollments for this course. P: STA 346. Development of aesthetic and technical skills with particular focus on contemporary issues of content and concept. Includes opportunity for supervised individual study.

450. Advanced Sculpture
Fall, Spring. 4(0-8) A student may earn a maximum of 20 credits in all enrollments for this course. P: At least two courses from the sequence STA 350, STA 351, STA 354, STA 355. Advanced applications of sculpture concepts, styles, and techniques. Consideration of the language of contemporary sculpture, with emphasis on individual direction.

460. Graphic Communication
Fall, Spring. 4(0-8) P: STA 360. Graphic design for visual communication based on typographic problem solving. Selected experimental and practical projects.

462. Three-Dimensional Design
Spring. 4(0-8) P: STA 360. Development and application of visual communication elements for three-dimensional structures and compound surfaces within a broad range of scale.

463. Book Design
Fall. 4(0-8) P: STA 360. Principles of typography and graphic design as applied to the book form.

464. Design Process and Concepts
Fall. 4(0-8) P: STA 360. Problem solving methods, strategies, and procedures. Exploration of problem definition, analysis, concept development, and evaluation.

465. The Poster
Spring. 4(0-8) P: STA 360. Poster design as a combined verbal and non-verbal communication device. Visual elements used to persuade and inform.

466. Corporate Imagery
Fall. 4(0-8) P: STA 360. Design development, hierarchical unification, and application strategies for the graphic identification of organizations and sub-units of organizations.

467. Motion Graphics and Electronic Media
Fall. 4(0-8) P: STA 460. Non-print methods of visual communication. Computer and video-based two-dimensional animation design.

468. Computer Graphics
Spring. 4(0-8) P: STA 460. The computer as a medium for visual communication design. Experimentation with drawing, painting and solid modeling applications.

470. Still Photography
Fall, Spring. 4(2-4) P: STA 370. Control of black and white photographic materials through advanced camera and darkroom techniques. View camera principles and use. Print hand-coloring and archival processing. Contemporary form and content issues.

472. Color Photography

473. Landscape Photography
Fall. 4(2-4) P: STA 470. Principles of landscape photography ranging from response to the rural and pastoral to urban and human altered. Historical and contemporary aesthetic trends. Films formats ranging from 35 mm to 4"x5". Controlled black and white printing and zone system.

474. Photography Studio Lighting
Fall. 4(2-4) P: STA 470. The photographer's balance of still life and portrait composition and controlled lighting with personal interpretation of subject matter. Lighting theory, technique, and equipment.

475. Photography Workshop

481. Art Experiences with Children and Youth: Elementary
Fall. 5(1-8) P: Open only to majors in the Department of Art with a teacher certification option. Art teaching in the Saturday Art Program. Emphasis on elementary experiences. Planning and writing art curriculum.

482. Art Experiences with Children and Youth: Secondary
Spring. 6(2-8) P: Open only to majors in the Department of Art with a teacher certification option. Art teaching in the Saturday Art Program. Emphasis on secondary experiences. Planning and writing art curriculum.

490. Independent Study
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Approval of department. Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.

491A. Selected Topics - Painting
Spring. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: STA 320. R: Not open to freshmen and sophomores. Approval of department. Issues of technique, style, and content in painting.

491B. Selected Topics - Printmaking
Spring. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: One 400 level course in printmaking. R: Not open to freshmen and sophomores. Approval of department. Issues of technique, style, and content in printmaking.

491C. Selected Topics - Ceramics
Spring. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: STA 346. R: Not open to freshmen and sophomores. Approval of department. Issues of technique, style, and content in ceramics.

491D. Selected Topics - Sculpture
Spring. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: One 300 level course in sculpture. R: Not open to freshmen and sophomores. Approval of department. Issues of technique, style, and content in sculpture.

491E. Selected Topics - Graphic Design
Spring. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: STA 360. R: Not open to freshmen and sophomores. Approval of department. Issues of technique, style, and content in graphic design.

491F. Selected Topics - Photography
Fall of odd-numbered years. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: STA 370. R: Not open to freshmen and sophomores. Approval of department. Issues of technique, style, and content in photography.

492. Senior Seminar and Professional Practice
Fall, Spring. 3(2-0) R: Open only to seniors in Studio Art. Capstone course for artists and designers. Writing as a mode of issue delineation and definition.

493. Design Internship
Fall, Spring. 1 to 6 credits. A student may earn a maximum of 4 credits in all enrollments for this course. P: 12 credits in 400 level design courses. R: Open only to juniors and seniors in Studio Art with photography or graphic design concentrations. Approval of department, contract required prior to registration. Field experience in a working design environment under supervision of a design professional: art director, graphic designer, or photographer.

494. Design Center
Fall, Spring. 4(4-0) P: 12 credits of 400 level design courses and a portfolio review. R: Open only to majors in the Bachelor of Fine Arts program in Studio Art with a design emphasis. Practicum in design problem solving, including extensive contact with selected clients at a professional level.

495. Painting
Fall, Spring. 2 to 6 credits. A student may earn a maximum of 40 credits in all enrollments for this course. R: R: Open only to Master of Fine Arts students in Studio Art. Approval of department. Advanced study in a variety of painting media to foster independent development.