### Statistics and Probability—STT

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<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Notes</th>
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<tbody>
<tr>
<td>871</td>
<td>Theory of Statistics I</td>
<td>Fall: 3(3-0) RB: (MTH 828 or concurrently and STT 881 or concurrently)</td>
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<tr>
<td>872</td>
<td>Theory of Statistics II</td>
<td>Spring: 3(3-0) RB: (STT 871 and STT 882 or concurrently)</td>
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<tr>
<td>881</td>
<td>Theory of Probability I</td>
<td>Fall: 3(3-0) RB: (MTH 828 or concurrently)</td>
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<tr>
<td>882</td>
<td>Theory of Probability II</td>
<td>Spring: 3(3-0) RB: (STT 881)</td>
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<tr>
<td>886</td>
<td>Stochastic Processes and Applications</td>
<td>Fall: 3(3-0) RB: (STT 441 or STT 861)</td>
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<tr>
<td>888</td>
<td>Stochastic Models in Finance</td>
<td>Spring: 3(3-0) RB: (STT 441 or STT 861)</td>
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<tr>
<td>390</td>
<td>Statistical Problems</td>
<td>Fall, Spring, Summer: 1 to 3 credits</td>
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<td>399</td>
<td>Master's Thesis Research</td>
<td>Fall, Spring, Summer: 1 to 6 credits</td>
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<tr>
<td>914</td>
<td>Applied Regression Models in Business Research</td>
<td>Spring: 3(3-0) Interdepartmental with Management. RB: (STT 430 or STT 441) or equivalent R: Open only to doctoral students in Business Administration. Seminar on design and analysis of regression-based statistical models. Modeling issues arising in business research.</td>
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<tr>
<td>915</td>
<td>Advanced Survival Analysis</td>
<td>Spring of odd years: 3(3-0) Interdepartmental with Epidemiology. Administered by Department of Epidemiology. RB: (EPI 810 and EPI 826 and EPI 852) Methods of analysis of time to event data parametric and nonparametric models, frailty models.</td>
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<tr>
<td>920</td>
<td>Advanced Methods in Epidemiology and Applied Statistics</td>
<td>Spring of even years: 3(3-0) Interdepartmental with Epidemiology. P.M: (EPI 826) Pattern recognition and cluster analysis, longitudinal data analysis, path analysis, repeated measures and time-series analysis.</td>
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<td>953</td>
<td>Asymptotic Theory</td>
<td>Fall of odd years: 3(3-0) RB: (STT 872) Asymptotics of M- and R- estimators. Asymptotically efficient and adaptive procedures.</td>
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<tr>
<td>954</td>
<td>Semi-Nonparametric Inference</td>
<td>Fall of odd years: 3(3-0) RB: (STT 872) Robust procedures in regression and time series settings, nonparametric curve estimation, survival analysis in non- and semi-parametric models.</td>
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<tr>
<td>964</td>
<td>Stochastic Analysis</td>
<td>Spring of even years: 3(3-0) RB: (STT 882) Stochastic integrals and semi-martingales, Ito formula, stochastic differential equations. Applications.</td>
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<tr>
<td>990</td>
<td>Problems in Statistics and Probability</td>
<td>Fall, Spring, Summer: 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: (STT 872) R: Approval of department. Individual study on an advanced topic in statistics or probability.</td>
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<tr>
<td>996</td>
<td>Advanced Topics in Probability</td>
<td>Fall, Spring, Summer: 3(3-0) A student may earn a maximum of 15 credits in all enrollments for this course. RB: (STT 882) R: Approval of department. Current topics in probability.</td>
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<tr>
<td>997</td>
<td>Advanced Topics in Statistics</td>
<td>Fall, Spring, Summer: 3(3-0) A student may earn a maximum of 15 credits in all enrollments for this course. RB: (STT 872) R: Approval of department. Topics selected from non- and semi parametric statistics, multivariate analysis, time series analysis, Bayesian statistics, regression and kernel estimation, and other topics in advanced statistics.</td>
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<tr>
<td>999</td>
<td>Doctoral Dissertation Research</td>
<td>Fall, Spring, Summer: 1 to 24 credits. A student may earn a maximum of 120 credits in all enrollments for this course. R: Approval of department. Doctoral dissertation research.</td>
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### STUDIO ART—STA

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<th>Course ID</th>
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<tbody>
<tr>
<td>110</td>
<td>Drawing I</td>
<td>Fall, Spring: 3(0-6)</td>
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<tr>
<td>111</td>
<td>Drawing II</td>
<td>Fall, Spring: 3(0-6) P: (STA 110)</td>
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<tr>
<td>113</td>
<td>Color and Design</td>
<td>Fall, Spring: 3(0-6)</td>
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<tr>
<td>114</td>
<td>Three-Dimensional Form</td>
<td>Fall, Spring: 3(0-6)</td>
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<tr>
<td>300</td>
<td>Intermediate Drawing</td>
<td>Fall, Spring: 3(0-6) P: (STA 111 and STA 113 and STA 114)</td>
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<tr>
<td>320</td>
<td>Painting I</td>
<td>Fall, Spring: 3(0-6) P: (STA 320)</td>
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<tr>
<td>340</td>
<td>Ceramics I</td>
<td>Fall, Spring: 3(0-6) P: (STA 111 and STA 113 and STA 114)</td>
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<tr>
<td>345</td>
<td>Ceramics II</td>
<td>Fall, Spring: 3(0-6) P: (STA 340)</td>
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<tr>
<td>350</td>
<td>Figure Modeling</td>
<td>Fall, Spring: 3(0-6) P: (STA 111 and STA 113 and STA 114)</td>
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Department of Art and Art History
College of Arts and Letters

110 Drawing I
- Fundamental concepts of drawing. Emphasis on observational, descriptive and analytical drawing. Practice of drawing skills using common drawing media.

111 Drawing II
- Development of imagery and expression; abstraction and the use of the human figure as subject matter.

113 Color and Design
- 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
- 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.

300 Intermediate Drawing
- Observational and imaginative drawing including the human figure. Non-representational drawings. Contemporary drawing systems, concepts, and processes.

320 Painting I
- Continuation of representational painting, and introduction to non-representational painting and concepts.

340 Ceramics I
- Ceramic processes including handbuilding, glaze formulation, and kiln firing as a means of cultural expression.

345 Ceramics II
- Continued development of ceramic forming and kiln firing techniques including handbuilding, glaze formulation, mold making, casting, and wheel throwing for cultural and artistic expression.

350 Figure Modeling
- Modeling human and natural forms. The figure as a means of artistic and cultural expression.
351 Mixed Media and Installation
Fall, Spring. 3(0-6) P: (STA 111 and STA 113 and STA 114)
Exploration of artistic expression using mixed media and assemblage techniques. Installation techniques.

354 Casting
Fall, Spring. 3(0-6) P: (STA 111 and STA 113 and STA 114)
Casting concepts and techniques as a means of artistic and cultural expression.

355 Construction and Fabrication
Fall, Spring. 3(0-6) P: (STA 111 and STA 113 and STA 114)
Sculptural concepts using methods of construction and fabrication as an approach to artistic and cultural expression.

360 Graphic Design
Fall, Spring. 3(0-6) P: (STA 111 and STA 113 and STA 114)
Graph signs and symbols used in visual communication. Application of design principles to experimental and practical problem solving.

370 Photography
Fall, Spring. 4(2-4) P: (STA 111 and STA 113 and 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.

371 Art, Education and Society
Fall, Spring. 3(3-0) P: (HA 120 or HA 121) and completion of Tier I writing requirement. Visual theory, learning theory, and social theory in historical and cultural contexts. Fieldwork and research-based written assignments.

400 Advanced Drawing
Fall, Spring. 4(0-6) 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.

420 Painting
Fall, Spring. 4(0-8) P: 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(0-8) P: 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, linocut and woodcut for artistic and cultural expression.

431 Screen Printing
Fall, Spring. 4(0-8) P: 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(0-8) P: 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) P: A student may earn a maximum of 20 credits in all enrollments for this course. P: (STA 300 or STA 320) Aesthetic principles and techniques such as line etching, soft ground, aquatint, dry point, wax resist, collagraph, and monoprints.

440 Ceramics
Fall, Spring. 4(0-8) P: A student may earn a maximum of 20 credits in all enrollments for this course. P: (STA 345) 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: (STA 350 or STA 351 or STA 354 or STA 355) RB: and one other 300-level sculpture course 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 462 or STA 463 or STA 464 or STA 465 or STA 466 or STA 467 or STA 468) RB: and one other 400 level graphic design course. 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 360) Non-print methods of visual communication. Computer- and video-based two-dimensional animation design.

468 Computer Graphics
Spring. 4(0-8) P: (STA 360) 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

474 Photography Studio Lighting
Fall. 4(2-4) P: (STA 370) 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 I
Fall. 5(1-8) P: (STA 371) and completion of Tier I writing requirement. R: Open only to juniors or seniors in the Department of Art and Art History 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 II
Spring. 5(1-8) P: (STA 371) Completion of Tier I writing requirement. R: Open only to juniors or seniors in the Department of Art and Art History 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: 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: (STA 430 or STA 431 or STA 432 or STA 433 or STA 435) R: Approval of department. Issues of technique, style, and content in printmaking.
Studio Art—STA

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 345) R:
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: (STA 350 or STA 351 or STA 354 or STA 355) R: 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: Approval of department.
Issues of technique, style, and content in graphic design.

491F Selected Topics - Photography
Fall of odd years, 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: (STA 370) R: Approval of department.
Issues of technique, style, and content in photography.

492 Senior Seminar and Professional Practice (W)
Fall, Spring, 2(2-0) P: Completion of Tier I writing requirement. C: STA 492A concurrently.
Capstone course for artists and designers. Writing as a mode of issue delineation and definition.

820 Painting
Fall, Spring, 2 to 8 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to seniors in the Studio Art major, C: STA 492A concurrently.
Demonstration of clinical manifestations of genitourinary disease, investigative methods and techniques of diagnosis and management. Urologic emergencies and performance of basic urologic skills.

831 Screen Printing
Fall, Spring, 2 to 8 credits. A student may earn a maximum of 40 credits in all enrollments for this course. R: Open only to Master of Fine Arts students in Studio Art. Approval of department.
Theory and practice of screen printing as a means to create expressive imagery.

832 Lithography
Fall, Spring, 2 to 8 credits. A student may earn a maximum of 40 credits in all enrollments for this course. R: Open only to Master of Fine Arts students in Studio Art. Approval of department.
Theory and practice of lithography as a means to create expressive imagery.

833 Intaglio Printing
Fall, Spring, 2 to 8 credits. A student may earn a maximum of 40 credits in all enrollments for this course. R: Open only to Master of Fine Arts students in Studio Art. Approval of department.
Theory and practice of intaglio printing as a means to create expressive imagery.

840 Ceramics
Fall, Spring, 2 to 8 credits. A student may earn a maximum of 40 credits in all enrollments for this course. R: Open only to Master of Fine Arts students in Studio Art. Approval of department.
Advanced study in ceramics to foster independent development.

Surgery

608 Junior Surgery Clerkship
Spring, Summer, 6 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. RB: (FMP 602) R: Open only to graduate-professional students in the College of Human Medicine.
The surgical patient, surgical diagnosis, pre-operative evaluation and post-operative care.

609 Otolaryngology Clerkship
Fall, Spring, Summer. 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course. RB: (SUR 608) R: Open only to graduate-professional students in College of Human Medicine.
Common otolaryngologic disorders, emergencies. Diagnosis and treatment. Primary physician's judgments about management.

610 Plastic Surgery Clerkship
Fall, Spring, Summer. 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course. RB: (SUR 608) R: Open only to graduate-professional students in College of Human Medicine.
Principles of wound healing and tissue repair. Indications and applications of plastic surgery procedures.

611 Urology Clerkship
Fall, Spring, Summer. 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course. RB: (SUR 608) R: Open only to graduate-professional students in College of Human Medicine.
Demonstration of clinical manifestations of genitourinary disease, investigative methods and techniques of diagnosis and management. Urologic emergencies and performance of basic urologic skills.

Orthopedic Surgery Clerkship
Fall, Spring, Summer. 6 credits. A student may earn a maximum of 18 credits in all enrollments for this course. RB: (SUR 614) R: Open only to graduate-professional students in College of Human Medicine.
Diagnosis and management skills in common orthopedic problems. Orthopedic emergencies.