

SPANISH

835*. **Spanish American Literature before Modernismo**
Spring of even-numbered years. 3(3-0)

Major authors and movements from the colonial period and nineteenth century to modernismo. Topic varies.
QA: SPN 850

840*. **Contemporary Spanish American Literature**
Fall of odd-numbered years. 3(3-0)

Poetry, drama, prose, fiction and essay from modernismo to the present. Topic varies.
QA: SPN 852

890*. **Independent Study**
Fall, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 3 credits.
R: Approval of the Department

Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.
QA: SPN 860

891*. **Special Topics in Spanish**
Fall, Spring, Summer. 3(03-00) May reenroll for a maximum of 6 credits.
R: Approval of the Department

Special topics supplementing regular course offerings proposed by faculty on a group study basis for graduate students.

999*. **Doctoral Dissertation Research**
Fall, Spring, Summer. 1 to 24 credits. May reenroll for a maximum of 24 credits.
R: Approval of the Department

QA: SPN 999

STATISTICS AND PROBABILITY STT

200. **Statistical Methods**
Fall, Spring, Summer. 3(4-0)
P: MTH 110 or MTH 116 or designated score on mathematics placement test. <F9
R: Not open to students with credit in STT 351.
Descriptive statistics, elementary probability and combinatorics. The binomial distribution. Random variables, their expectations and variances. Central Limit Theorem, estimation and inference. Simple tests based on the binomial, normal, t, chi-square an
QP: STT 315 STT 421 QA: STT 201

201. **Statistical Methods**
Fall, Spring, Summer. 4(3-2)
P: MTH 110 or MTH 116 or designated score on mathematics placement test.
R: Not open to students with credit in STT 200 or STT 315 or STT 331 or STT 351 or STT 421.
Probability and statistics with computer applications. Data analysis, probability models, random variables, tests of hypotheses, confidence intervals, simple linear regression.
QP: STT 315 STT 421

315. **Introduction to Probability and Statistics for Business**
Fall, Spring, Summer. 3(4-0)
P: MTH 120 or MTH 124 or MTH 132.
R: Not open to students with credit in STT 200 or STT 201 or STT 331 or STT 351 or STT 421.
Probability and statistics for business majors. Data analysis, probability models, random variables, single population confidence intervals and tests of hypotheses with business applications.
QP: MTH 111

331. **Statistics for Scientists**
Fall, Spring. 3(3-0)
P: MTH 120 or MTH 124 or MTH 132 or LBS 101. R: Open only to students in College of Natural Science. Not open to students with credit in STT 351 or STT 441.
Calculus based course in probability and statistics. Probability models, random variables, tests of hypotheses, confidence intervals with applications in sciences.
QP: LBS 113 ORMTH 113

351. **Probability and Statistics for Engineers**
Fall, Spring, Summer. 3(3-0)
P: MTH 234. R: Not open to students with credit in STT 200.
A calculus based course in probability and statistics for engineering students. Probability models, random variables, tests of hypotheses, and confidence intervals with engineering applications.
QA: STT 351

421*. **Statistics I**
Fall, Spring, Summer. 3(03-00)
P: MTH 110 or MTH 116. R: Not open to students with credit in STT 200 or STT 201 or STT 231 or STT 315 or STT 351.
Basic probability, random variables, and common distributions. Estimation and tests for one-, two-, and paired sample problems. Introduction to simple linear regression and correlation, 1-way ANOVA.
QP: MTH 108 QA: STT 421 STT 422

422*. **Statistics II**
Fall, Spring, Summer. 3(03-00)
P: STT 421. R: Not open to students with credit in STT 464.
Goodness of fit and other non-parametric methods. Linear models including multiple regression and ANOVA for simple experimental designs.
QP: STT 421 QA: STT 422 STT 423

430*. **Introduction to Probability and Statistics**
Fall. 3(3-0)
P: MTH 126 or MTH 133. R: Open only to Economics and Agricultural Economics majors. Not open to students with credit in STT 231 or STT 351 or STT 441 or STT 421.
Calculus based probability and statistics with applications. Discrete and continuous random variables and their expectations. Point and interval estimation, tests of hypotheses, simple linear regression.
QP: MTH 113 ORMTH 123ORMTH 480

441*. **Probability and Statistics I: Probability**
Fall, Spring, Summer. 3(03-00)
P: MTH 235 or concurrently.
Discrete and continuous distributions: univariate and multivariate. Normal approximation, sampling distributions and parameter estimation. Poisson process and applications.
QP: MTH 215 QA: STT 441 STT 442

442*. **Probability and Statistics II: Statistics**
Fall, Spring. 3(03-00)
P: STT 441, MTH 314 or concurrently.
Estimation, tests of hypotheses, confidence intervals. Goodness of fit, non-parametric methods. Linear models, multiple regression, ANOVA.
QP: STT 441 QA: STT 442 STT 443

461*. **Computations in Probability and Statistics**
Spring. 3(03-00)
P: CPS 131 or CPS 230; MTH 314, STT 441.
Computer algorithms for evaluation, simulation and visualization. Sampling and prescribed distributions. Robustness and error analysis of procedures used by statistical packages. Graphics for data display, computation of probabilities and percentiles.
QP: STT 441 MTH 334 QA: STT 461

464*. **Statistical Methods for Biologists**
Fall. 3(03-00) Interdepartmental with the Department(s) of Animal Science, Crop and Soil Sciences.
P: STT 421
Biological random variables; estimation of population parameters; testing hypotheses; linear correlation and regression (prediction); analyses of counted and measured data to compare several biological groups (contingency tables and analysis of variance)
QP: STT 421 QA: STT 422

465*. **Statistical Methods for Biologists II**
Spring. 3(03-00) Interdepartmental with the Department(s) of Animal Science, Crop and Soil Sciences.
P: STT 464
Concepts of reducing experimental error: covariance; complete and incomplete block designs; latin squares; split plots; repeated-measures designs; regression applications; response surface designs.
QP: STT 422 QA: ANS 871 CSS 920

471*. **Statistics for Quality and Productivity**
Fall. 3(03-00)
P: STT 351 or STT 422 or STT 442.
Scientific context of quality: Box, Deming, Taguchi. Graphical techniques, control charts. Design of experiments: factorials and fractional factorials, confounding and aliasing. Engineering parameter design through experimentation.
QP: STT 351 ORSTT 422ORSTT 442 QA: STT 471

481*. **Issues in Statistical Practice**
Spring. 1(01-00)
R: Open only to seniors in Statistics.
Selected readings and projects illustrating special problems encountered by professional statisticians in their roles as consultants, educators, and analysts.

490*. **Directed Study of Statistical Problems**
Fall, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits.
R: Open only to juniors and seniors in Mathematics or Statistics.
Individualized study of selected topics.
QA: STT 490

871*. **Theory of Statistics I**
Fall. 3(03-00)
P: STT 881 & MTH 821 (or concurr); MTH 921 (or concurr) or STT 862.
Empirical distributions, quantiles, Glivenko-Cantelli Theorem. Important distributions and families. Convergences, Slutsky Theorem, asymptotics of differentiable functions. Basic concepts of decision theory. Confidence sets. Some basic stat methods.
QP: STT 870 MTH 822 QA: STT 872

872*. **Theory of Statistics II**
Spring. 3(03-00)
P: STT 871; STT 882 (or concurr).
Theory of Neyman Pearson tests and extensions. Convex loss estimation, best unbiased estimates, sufficient statistics, information lower bounds. Extensive application to linear models. Introduction to LAN families and applications to estimation & test
QP: STT 872 QA: STT 873 STT 955

STUDIO ART STA

110*. **Drawing Fundamentals I**
Fall, Spring. 3(0-6)
Introduction to, and application of, the fundamental concepts of drawing. Emphasis on observational, descriptive and analytical analysis. Practice of drawing skills using common drawing media.
QA: STA 141

STUDIO ART

- 111*.** **Drawing Fundamentals II**
Fall, Spring. 3(0-6)
P: STA 110
 Continuation of STA 110 drawing content with increased development of personal imagery and expression. Introduction of the means of abstraction and of the use of the human figure as subject matter.
QA: STA 141
- 113*.** **Color and Design**
Fall, Spring. 3(0-6)
 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.
QA: STA 142
- 114*.** **Three-Dimensional Form**
Fall, Spring. 3(0-6)
 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.
QA: STA 143
- 300*.** **Intermediate Drawing**
Fall, Spring. 3(0-6)
P: STA 110, STA 111, STA 113, STA 114.
 Observational and imaginative drawing including the human figure. Non-representational drawing. Contemporary drawing systems, concepts, and process.
QP: STA 242 QA: STA 340
- 302*.** **Time-Space-Motion-Sound**
Spring. 3(0-6)
P: STA 300 R: Juniors and above
 Theory and exploration in multi-dimensional forms of artistic expression and their interrelationships.
- 320*.** **Painting I**
Fall, Spring. 3(0-6)
P: STA 110, STA 111, STA 113, STA 114.
 Representational painting of landscape, figure, and still life imagery. Painting concepts, materials, and techniques.
QP: STA 141 STA 142 QA: STA 255
- 325*.** **Painting II**
Fall, Spring. 3(0-6)
P: STA 300, STA 320.
 Continuation of representational painting, and introduction to non-representational painting and concepts
QP: STA 255 QA: STA 355 STA 356 STA 357
- 340*.** **Ceramics I**
Fall, Spring. 3(0-6)
P: STA 110, STA 111, STA 113, STA 114.
 Ceramic processes including handbuilding, glaze formulation, and kiln firing.
QP: STA 141 STA 143 QA: STA 240
- 345*.** **Ceramics II**
Fall, Spring. 3(0-6)
P: STA 340.
 Continued development of ceramic forming and firing techniques including handbuilding, glaze formulation, mold making, casting, and wheel throwing.
QP: STA 240 STA 241 QA: STA 341
- 350*.** **Figure Modeling**
Fall, Spring. 3(0-6)
P: STA 110, STA 111, STA 113, STA 114.
 Modeling human and natural forms.
QP: STA 141 STA 143 QA: STA 228
- 351*.** **Collage, Mixed Media, Assemblage**
Fall, Spring. 3(0-6)
P: STA 110, STA 111, STA 113, STA 114.
 Exploration of artistic expression using collage, mixed media, and assemblage techniques.
QP: STA 143 QA: STA 228 STA 328
- 354*.** **Casting**
Fall, Spring. 3(0-6)
P: STA 110, STA 111, STA 113, STA 114.
 Casting concepts and techniques as a means of artistic expression.
QP: STA 228 QA: STA 328
- 355*.** **Construction and Fabrication**
Fall, Spring. 3(0-6)
P: STA 110, STA 111, STA 113, STA 114.
 Sculptural concepts using methods of construction and fabrication as an approach to artistic expression.
QP: STA 228 QA: STA 328
- 360*.** **Graphic Design**
Fall, Spring. 3(0-6)
P: STA 110, STA 111, STA 113, STA 114.
 Graphic signs and symbols used in visual communication. Application of design principles to experimental and practical problem solving.
QP: STA 141 STA 142 QA: STA 231
- 370*.** **Photography**
Fall, Spring. 4(2-4)
P: STA 110, 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.
QP: STA 141 STA 142 QA: STA 200
- 380*.** **Art for Early Childhood and Elementary education**
Fall, Spring. 3(1-4)
 Creative art experience and its application for children. Children's growth and development in art. Studio activities, readings and discussion.
QA: STA 310
- 381*.** **Learning Strategies, Concepts, Resources and Materials for Art Education**
Spring. 4(0-8)
R: Juniors and above BFA Art Education
 Growth and development of learners: concepts, processes and materials as they apply to art teaching situations.
QA: STA 303
- 400*.** **Advanced Drawing**
Fall, Spring. 4(0-8)
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.
QP: STA 340 QA: STA 430
- 405*.** **Metalsmithing**
Fall. 4(0-8)
P: STA 110, 111, 113, 114
 Processes of forming, joining, finishing and embellishing metals to create small sculpture or jewelry.
QP: STA 141 STA 142 STA 143 QA: STA 249
- 407*.** **Art in London**
Summer. 3(0-6)
P: STA 110, 111, 113, 114
 Study in London 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.
QA: STA 450W
- 420*.** **Painting**
Fall, Spring. 4(0-8) May reenroll for a maximum of 20 credits.
P: STA 325 Painting
 Advanced applications of painting concepts, styles and techniques. Further consideration of the language of contemporary painting.
QP: STA 355 STA 356 STA 357 QA: STA 455
- 430*.** **Relief Printing**
Fall of odd-numbered years, Spring of odd-numbered years. 4(0-8) May reenroll for a maximum of 20 credits.
P: STA 300 or STA 320. R: Not open to Freshman
 Theory and practice of relief prints including additive methods, linocut and woodcut. May reenroll to continue individual thematic development and advanced study.
QP: STA 141 STA 142 QA: STA 247
- 431*.** **Screen Printing**
Fall of even-numbered years, Spring of even-numbered years. 4(0-8) May reenroll for a maximum of 20 credits.
P: STA 300 or STA 320. R: not open to Freshman
 Screen printing as a fine art print medium. Theory and techniques as a means to creative and expressive imagery. May reenroll to continue individual thematic development and advanced study.
QP: STA 305 QA: STA 405
- 432*.** **Lithography**
Fall, Spring. 4(0-8) May reenroll for a maximum of 20 credits.
P: STA 300 or STA 320. R: not open to freshman
 Lithographic process as an artistic medium. Techniques of the medium, preparing the plate or stone, printing, the use of tusche, wash and rubbing as a means to creative imagery. May reenroll to continue individual thematic development and advance study.
QP: STA 306 QA: STA 406
- 433*.** **Intaglio**
Fall, Spring. 4(0-8) May reenroll for a maximum of 20 credits.
P: STA 300 or STA 320. R: not open to Freshman
 Aesthetic principles and techniques such as line etching, soft ground, aquatint, dry point, wax resist and collograph and monoprints. May reenroll to continue individual thematic development and advanced study.
QP: STA 142 STA 241 QA: STA 307
- 435*.** **Handmade Paper**
Spring of odd-numbered years. 4(0-8) May reenroll for a maximum of 20 credits.
P: STA 300 or STA 320. R: not open to Freshman
 Handmade paper as an art form. Basic techniques including lamination, layering, folding and vacuum forming. May reenroll to continue individual thematic development and advanced study.
QA: STA 409
- 440*.** **Ceramics**
Fall, Spring. 4(0-8) May reenroll for a maximum of 20 credits.
P: STA 345
 Further development of aesthetic and technical skills with particular focus on contemporary issues of content and concept. Students will have increased opportunity for supervised individual study.
QP: 341 QA: 431
- 450*.** **Advanced Sculpture**
Fall, Spring. 4(0-8) May reenroll for a maximum of 20 credits.
P: At least two courses from the sequence STA 350, 351, 354, 355
 Advanced applications of sculpture concepts, styles and techniques. Further consideration of the language of contemporary sculpture, with emphasis on individual direction.
QP: STA 328 QA: STA 428
- 460*.** **Graphic Communication**
Fall, Spring. 4(0-8)
P: STA 360
 Graphic design for visual communication based on typographic problem solving through selected experimental and practical projects
QP: STA 231 QA: STA 381

STUDIO ART

- 462*. Three-dimensional Design**
 Spring. 4(0-8)
 P: STA 460
 Development and application of visual communication elements for three-dimensional structures and compound surfaces within a broad range of scale
 QP: STA 231 STA 143 QA: STA 382
- 463*. Book Design**
 Fall. 4(0-8)
 P: STA 460
 Principles of typography and graphic design as applied to the book form.
 QP: STA 231 QA: STA 383
- 464*. Design Process and Concepts**
 Fall. 4(0-8)
 P: STA 460
 Problem solving methods, strategies, and procedures. Exploration of problem definition, analysis, concept development, and evaluation.
 QP: STA 231 QA: STA 384
- 465*. The Poster**
 Spring. 4(0-8)
 P: STA 460
 Poster design as a combined verbal and non-verbal communication device. Study of the visual elements used to persuade and inform.
 QP: STA 231 STA 200 QA: STA 385
- 466*. Corporate Imagery**
 Fall. 4(0-8)
 P: STA 460
 Design development, hierarchical unification, and application strategies for the graphic identification of organizations and sub-units of organizations.
 QP: STA 231 QA: STA 386
- 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.
 QP: STA 231 QA: STA 387
- 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.
 QP: STA 231 QA: STA 388
- 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.
 QP: STA 200 QA: STA 300
- 472*. Color Photography**
 Spring. 4(2-4)
 P: STA 470
 Principles of color photography. Vision, perception, and photographic science and art. Effect of color on content. Color negative process and printing.
 QP: STA 300 QA: STA 372
- 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. Film formats ranging from 35 mm to 4" x 5". Controlled black and white printmaking and zone system
 QP: STA 300
- 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.
 QP: STA 300 QA: STA 370 STA 371
- 475*. Photography Workshop**
 Spring. 4(1-6)
 P: STA 470
 Non-traditional photographic processes and concepts: non-silver printmaking, electronic still imaging, computer manipulation, video production, and slide-sound productions.
 QP: STA 300 QA: STA 401
- 481*. Art Experiences with Children and Youth: Elementary**
 Fall. 4(0-8)
 P: STA 381 R: Juniors and above BFA
 Art Education
 Art learning experiences with children and youth. Art teaching in the Saturday Art Program; emphasis on elementary experiences.
 QP: STA 303 QA: STA 320
- 482*. Art Experiences with Children and Youth: Secondary**
 Spring. 4(0-8)
 P: STA 381, 481 R: Juniors and above BFA
 Art Education
 Art learning experiences with children and youth. Art teaching in the Saturday Art Program; emphasis on secondary experiences.
 QP: STA 303 QA: STA 320
- 490*. Independent Study**
 Fall, Spring, Summer. 1 to 3 credits.
 May reenroll for a maximum of 3 credits.
 R: Approval of the Department
 Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
 QA: STA 460
- 491A*. Selected Topics in Studio Art: Painting**
 Fall, Spring. 4(0-8)
 P: Junior standing and at least one 400 course in area of selected topic.
 Special topics in each of the primary areas of emphasis in studio art.
 QA: STA 463
- 491B*. Selected Topics in Studio Art: Printmaking**
 Fall, Spring. 4(0-8)
 P: Junior standing and at least one 400 course in area of selected topic.
 Special topics in each of the primary areas of emphasis in studio art.
 QA: STA 465
- 491C*. Selected Topics-Ceramics**
 Spring. 2 to 3 credits. May reenroll for a maximum of 6 credits.
 P: STA 341 R: Juniors or above Approval of department
 Issues of technique, style, and content in ceramics.
 QP: STA 341 QA: STA 461
- 491D*. Selected Topics-Sculpture**
 Spring. 2 to 3 credits. May reenroll for a maximum of 6 credits.
 P: STA 110, 111, 115, 116 R: Juniors or above Approval of department
 Issues of technique, style, and content in sculpture.
 QP: STA 143
- 491E*. Selected Topics in Studio Art: Graphic Design**
 Fall, Spring. 4(0-8)
 P: Junior standing and at least one 400 course in area of selected topic.
 Special topics in each of the primary areas of emphasis in studio art.
 QA: STA 464
- 491F*. Selected Topics in Studio Art: Photography**
 Fall, Spring. 4(0-8)
 P: Junior standing and at least one 400 course in area of selected topic.
 Special topics in each of the primary areas of emphasis in studio art.
 QA: STA 464
- 492*. Senior Seminar and Professional Practice**
 Fall, Spring. 4(4-0)
 R: Open only to seniors in Studio Art.
 Seminar and professional practice for artists and designers. Writing as a mode of issue delineation and definition.
 QA: STA 488
- 492W*. Senior Seminar and Professional Practice**
 Fall, Spring. 2(2-0)
 R: Seniors A & L STA
 Seminar and professional practice for artists and designers. Writing as a mode of issue delineation and definition.
- 493*. Design Internship**
 Fall, Spring. 1 to 4 credits. May reenroll for a maximum of 4 credits.
 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.
 QA: STA 497
- 494*. Design Center**
 Fall, Spring. 4(4-0)
 P: 12 credits of 400 level design courses and a portfolio review R: Juniors and above BFA majors with design emphasis
 Design problem solving. Extensive contact with selected clients at a professional level.
 QA: STA 486
- 820*. Painting**
 Fall, Spring. 2 to 8 credits. May reenroll for a maximum of 40 credits.
 P: STA 420 or approval of department R: M.F.A. degree candidates
 Advanced work in a variety of painting media. Students pursue their own individual directions; guidance and criticism through a committee comprised of department faculty; group critiques.
 QA: STA 801
- 830*. Relief Printing**
 Fall, Spring. 2 to 8 credits. May reenroll for a maximum of 40 credits.
 P: STA 430 or approval of department.
 Theory and practice of relief prints as a means to create expressive imagery.
- 831*. Screen Printing**
 Fall, Spring. 2 to 8 credits. May reenroll for a maximum of 40 credits.
 P: STA 431 or approval of department.
 R: M.F.A. degree candidates
 Theory and practice of screen printing as a means to create expressive imagery.

STUDIO ART

832*. **Lithography**
 Fall, Spring. 2 to 8 credits. May
 reenroll for a maximum of 40 credits.
 P: STA 432 or approval of department R:

M.F.A. degree candidate
 Theory and practice of lithography as a means to
 create expressive imagery.
 QA: STA 810

833*. **Intaglio Printing**
 Fall, Spring. 2 to 8 credits. May
 reenroll for a maximum of 40 credits.
 P: STA 433 or approval of department R:

M.F.A. degree candidates
 Theory and practice of intaglio printing as a means
 to create expressive imagery.
 QA: STA 809

840*. **Ceramics**
 Fall, Spring. 2 to 8 credits. May
 reenroll for a maximum of 40 credits.
 P: STA 440 or approval of department R:

M.F.A. degree candidates
 Advanced level ceramics involving contemporary
 issues of technique and content; experiences leading
 to independent development.
 QA: STA 804

850*. **Sculpture**
 Fall, Spring. 2 to 8 credits. May
 reenroll for a maximum of 40 credits.
 P: STA 450 or approval of department R:

M.F.A. degree candidates
 Ideas, issues and content in contemporary sculpture;
 advanced work in a variety of three-dimensional
 media; selected readings.
 QA: STA 803

860*. **Graphic Design**
 Fall, Spring. 2 to 8 credits. May
 reenroll for a maximum of 4 credits.
 P: STA 460 or approval of department R:

M.F.A. & M.A. degree candidates
 Investigation and development of visual forms leading
 to questioning of perceptual responses used in design
 problem solving and clarification.
 QA: STA 806

882*. **Seminar in Art Education**
 Fall of even-numbered years. 3(3-0)
 R: Approval of department

Examination of contemporary thought in art educa-
 tion. Current problems examined within an interdis-
 ciplinary framework. Research and reports.
 QA: STA 825

883*. **Critical Theory and Aesthetic
 Experience in Art Education**
 Spring of odd-numbered years. 3(3-0)
 R: Approval of department

Theories of art criticism and aesthetic experience.
 Application of these concepts for art education or
 related fields.
 QA: STA 826

884*. **Curriculum Design for Art
 Education**
 Fall of odd-numbered years. 3(3-0)
 R: approval of department

Factors affecting art curriculum; analysis, preparation
 and evaluation.
 QA: STA 827

885*. **Research Methods for Art
 Education**
 Spring of even-numbered years. 3(3-0)
 R: Approval of department.

Research designs and methodologies applicable to the
 study of problems in art education; preparation and
 evaluation.
 QA: STA 828

892*. **M.F.A. Seminar**
 Fall, Spring. 3(3-0) May reenroll for
 a maximum of 12 credits.
 R: M.F.A. degree candidates

Examination and review of contemporary intellectual
 issues related to practice in the visual arts. Group
 critiques of individual scholarly and applied research.

898*. **M.F.A. Thesis**
 Fall, Spring. 4 to 8 credits in
 increments of 2 credits. May reenroll
 for a maximum of 16 credits.
 P: 12 graduate credits in student's studio

art discipline R: M.F.A. degree candidates
 Capstone work for M.F.A. degree candidates in Studio
 Art.

SURGERY SUR

608*. **Basic Surgery Clerkship**
 P: FMP 602. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

The surgical patient, surgical diagnosis, pre-operative
 evaluation and post-operative care.
 QA: SUR 608

609*. **Otolaryngology Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Common otolaryngologic disorders, emergencies.
 Diagnosis and treatment. Primary physician's judg-
 ments about management.
 QA: SUR 609

610*. **Plastic Surgery Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Principles of wound healing and tissue repair. Indica-
 tions and applications of plastic surgery procedures.
 QA: SUR 610

611*. **Urology Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Demonstration of clinical manifestations of
 genito-urinary disease, investigative methods and
 techniques of diagnosis and management. Urologic
 emergencies and performance of basic urologic skills.
 QA: SUR 611

613*. **Orthopedic Surgery Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Diagnosis and management skills in common orthope-
 dic problems. Orthopedic emergencies.
 QA: SUR 613

614*. **Neurosurgery Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Common emergent and elective neurosurgical prob-
 lems involving the brain, spine, and peripheral nerves.
 Neurological examinations, diagnostic methods.
 QA: SUR 614

615*. **Ophthalmology Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Medical and surgical treatment of eye diseases.
 Clinical experiences include private office practice,
 surgical observations, pre-and post-operative care.
 QA: SUR 615

616*. **Thoracic Surgery Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Problem solving in thoracic medicine and surgery.
 Pulmonary physiology. Diagnostic tools and tests, and
 indications for surgical procedures.
 QA: SUR 616

618*. **Anesthesia Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Common anesthetic agents. Performing anesthetic
 procedures under faculty supervision.
 QA: SUR 618

619*. **Sub-specialty Surgery Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Surgical domains not covered otherwise or in which
 students desire further exposure.
 QA: SUR 619

620*. **Advanced Surgery Clerkship**
 Fall, Spring, Summer. 6(-)
 P: SUR 608, MED 608. R: Open only to
 graduate-professional students in College of Human
 Medicine.

Advanced experience in critical care, trauma, and
 nutrition. Students must successfully complete sever-
 al technical bedside procedures with more responsibil-
 ity for patient care than in SUR 608.
 QA: SUR 620

621*. **Surgical Nutritional Care
 Clerkship**
 Fall, Spring, Summer. 6(-) May
 reenroll for a maximum of 18 credits.
 P: SUR 608. R: Open only to grad-
 uate-professional students in College of Human Medi-
 cine.

Clinical experience with nutrition team dealing with
 surgical and medical patients requiring therapeutic
 nutrition as a result of metabolic derangement and
 nutritional deficiencies.
 QA: SUR 621

801*. **Shock and Metabolism**
 Fall. 6(4-4)
 P: M.D. or D.O. Degree and acceptance
 into Masters Program in Surgery R: MD's or D.O.'s
 accepted into Master's Degree in Surg Prog

Results of prolonged reduction in tissue perfusion on
 tissue metabolism, structure, and function at the
 systemic, cellular and subcellular levels and pharma-
 cologic interventions useful in volume resuscitation
 QA: SUR 801