

2011-13 Cal Poly Catalog

Graphic Communication Department

GRC—GRAPHIC COMMUNICATION

GRC 101 Introduction to Graphic Communication (3)

Graphic communication history, theory, processes, applications, and practices. New technologies that affect day-to-day communication including traditional and digital printing and publishing, and non-print imaging including Internet applications. Overview of design technology, web and digital media, printing and imaging management, graphics for packaging, industry segments. 3 lectures.

GRC 200 Special Problems for Undergraduates (1–2)

Individual investigation, research, studies, or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter. Graphic Communication majors only. Prerequisite: Consent of instructor.

GRC 201 Digital Publishing Systems (3)

Introduction to web and print publishing systems including hardware, software, design considerations, and file formats. Overview of output technologies, networking, and digital publishing standards. 2 lectures, 1 laboratory. Graphic Communication majors only.

GRC 202 Digital Photography (3)

Digital photography for print and web, including lighting, exposure, composition, photo-retouching, equipment, color management, and output. 2 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 101 and either GRC 201 or GRC 377.

GRC 203 Digital File Preparation and Workflow (3)

Terminology and techniques used in digital workflow systems for print and web. Workflow options, including automation, proofing, and output systems. Digital file delivery and transfer. 2 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 202 or ART 184.

GRC 204 Introduction to Contemporary Print Management and Manufacturing (4)

Survey of management fundamentals and components relevant to graphic communication manufacturing, production, operations, and quality. Introduction to management theory and contemporary management trends and practices in the graphic communication industry. 4 lectures. Graphic Communication majors only. Prerequisite: GRC 101.

GRC 211 Substrates, Inks and Toners (3)

Technical aspects of paper, other substrates, inks, toners, and other printable materials used in the printing and packaging industries. Manufacture, application and interaction of these materials in relation to particular processes and end use requirements. Hands-on testing of materials in relation to quality, properties, and performance. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 101.

GRC 212 Substrates, Inks and Toners: Theory (3)

Technical aspects of paper, other substrates, inks, toners and other printable materials used in the printing and packaging industries. Manufacture, application, and interaction of these materials in relation to particular processes and end use requirements. Credit not allowed for GRC majors. 3 lectures. Prerequisite: GRC 101 and GRC minors only.

GRC 218 Digital Typography (4)

Application of typography using current software tools for print and web. In-depth study of communication principles and visual organization. Font technology and management for the creative, print and web publishing industries. Graphic Communication majors only. 3 lectures, 1 laboratory. Prerequisite: GRC 202 and GRC 203.

GRC 260 Introduction to Research Methods in Graphic Communication (3)

Introduction to research methods for preparing scholarly and defensible papers and projects, and in conducting qualitative and quantitative evaluations, testing and research in graphic communication. Methods covered include the Scientific Method, historical and descriptive research,

questionnaires, Elite and Specialized Interviewing, content analysis, and sampling. Design of research projects for each method taught. 2 lectures, 1 activity. Graphic Communication majors only. Prerequisite: GRC 101.

GRC 270 Selected Topics (1–4)

Directed group study of selected topics. The Schedule of Classes will list title selected. Total credit limited to 8 units. 1 to 4 lectures. Graphic Communication majors only. Prerequisite: Open to undergraduate students and consent of instructor.

GRC 316 Flexographic Printing Technology (3)

Analysis of flexographic printing technology for flexible packaging, label printing, folding and corrugated cartons. Applications of computers to the management and technical function of flexographic printing technology. 2 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 211.

GRC 320 Managing Quality in Graphic Communication (4)

Theory and practices of quality systems in the graphic communication industry. Emphasis on Deming Systems Thinking, Lean Manufacturing, Six Sigma, ISO, and Malcolm Baldrige. Quantifying customer expectations, specifications, standard operating procedures, SPC tools, and employee empowerment in the graphic arts. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 328 and STAT 217.

GRC 322 Advanced Digital Typography (3)

Advanced typographic principles relating to print and electronic media. Page layout and font management with consideration for electronic media. Applied problems focusing on typographic design, typographic application and file preparation. 2 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 218 and GRC 338.

GRC 324 Binding, Finishing, and Distribution Processes (3)

Imposition techniques, cutting, and folding. Stitch, case and perfect binding techniques and applications. Operational and aesthetic uses of die cutting, scoring, creasing, foil stamping and embossing techniques. Fulfillment and mailing operations. Applications of computers to the management and technical function of binding; finishing and distribution. 2 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 101.

GRC 325 Binding and Finishing Processes: Theory (2)

Imposition techniques, cutting and folding. Stitch, case and perfect binding techniques and applications. Operational and aesthetic uses of die cutting, scoring, creasing, foil stamping and embossing techniques. Fulfillment and mailing operations. Applications of computers to the management and technical function of binding; finishing and distribution. Credit not allowed for GRC majors. 2 lectures. Prerequisite: GRC 101 and GRC minors only.

GRC 328 Sheetfed Printing Technology (4)

Theory, practice and application of sheetfed printing and plate technology for commercial, book, advertising, catalog, packaging and reprographic segments of the printing industry. Press configurations, materials, computerized press controls, workflow, pressroom management, coating and quality control. Plate types, quality and new technologies for sheetfed printing. 3 lectures, 1 laboratory. Prerequisite: GRC 211 or GRC 212 and Graphic Communication majors only.

GRC 329 Web Offset and Gravure Printing Technologies (3)

Introduction to web offset and gravure printing for newspapers, packaging, magazines, books, catalogs and commercial products. Application of technology to the management and production of web offset and gravure printing. Preparation and use of gravure cylinders. 2 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 328.

GRC 331 Color Management and Quality Analysis (4)

The physics, psychology, measurement, analysis and management of color for print and electronic documents. Practical application of color correction, color proofing, and production workflows that ensure the best possible color reproduction. 3 lectures, 1 activity. Graphic Communication majors only. Prerequisite: Completion of GE B3 and either GRC 202 or ART 182.

GRC 337 Consumer Packaging (3)

Problem-solving strategies for package printing that integrate concepts from marketing, design and technology. Package manufacturing, function,

quality, visual appeal, sustainability, and economics are addressed. 2 lectures, 1 laboratory. Prerequisite: GRC 202.

GRC 338 Digital Content Management and Variable Data Publishing (4)

Digital content management strategies for print and web including file management, database principles, archiving, document formats, variable data publishing, workflow analysis, groupware, and repurposing. Technical and creative problem-solving for content production and management in print and web publishing. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 202, GRC 203 and GRC 218.

GRC 339 Web Design and Production (4)

Advanced design and production techniques for web development. Current software applications and technologies for user interface design, site structure and information architecture. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 338.

GRC 357 Specialty Printing Technologies (3)

Specialty printing and imaging technologies used in fabric decorating, decals for marketing, industrial, and functional printing, security printing and various forms of packaging. Printing on various materials using special processes including screen printing, pad printing, sublimation printing, digital imaging, and post print finishing. 2 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 202.

GRC 361 Marketing and Sales Management for Print and Digital Media (4)

Identification and development of target markets for products and services in the graphic communication industry. Deployment of strategies in pricing, promotion and distribution management. Application of customer relationship management techniques for personal selling, forecasting and planning. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 101 and GRC 204.

GRC 377 Web and Print Publishing (4)

GE Area F

Web and print publishing technology and its impact on society. The technologies of digital photography, typography, graphics, layout, and design for print and web publishing including decision-making considerations. The application of scientific and mathematical principles to web and print publishing technologies. 3 lectures, 1 laboratory. Prerequisite: Junior standing and completion of Area B. Fulfills GE Area F except for Graphic Communication majors.

GRC 388 Sustainable Communication Media (4)

Sustainable communication media and its impact on society, including advertising, printing, publishing and packaging. Production, procurement, and supply-chain perspectives. Scientific and quantitative approaches to continuously improving media for businesses, products or services. Media's environmental, social and economic performance. 4 lectures. Graphic Communication majors only. Prerequisite: Junior standing and completion of Area B.

GRC 400 Special Problems for Advanced Undergraduates (1-2)

Individual investigation, research, studies, or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter. Graphic Communication majors only. Prerequisite: Consent of instructor.

GRC 402 Digital Printing and Emerging Technologies in Graphic Communication (3)

Application of digital printing including the study of digital presses, front-end systems, and related technologies. Integration and automation of database and publishing software. Emerging graphic communication technologies that are affecting the methods and procedures of producing and distributing print and electronic media. Managing technological change in graphic communication establishments. 2 lectures, 1 activity. Graphic Communication majors only. Prerequisite: GRC 338.

GRC 403 Estimating for Print and Digital Media (4)

Estimating the cost of various kinds of print and digital products and services. Development of budgeted hour costs and production standards. Cost estimating methods for Print on Demand, VDP, sheetfed lithography, web site development, and wide-format output. Analysis of material, labor and other cost factors. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 328.

GRC 411 Strategic Trends and Costing Issues in Print and Digital Media (4)

Graphic communication industry market trends. Strategies for profitably positioning graphic communication companies. Costing methodology and practices for graphic communication companies. Company profitability using ratio analysis. Innovative management practices in the graphic communication industry. 3 lectures, 1 activity. Graphic Communication majors only. Prerequisite: GRC 403 and senior standing.

GRC 421 Production Management for Print and Digital Media (4)

Application of management principles and production control methodologies for print and digitally-imaged products. Organization and financial analysis, decision-making, equipment and inventory planning, resource optimization, and the application of practiced and newly innovative contemporary world-class techniques for improving profitability in the graphic communication industry. 3 lectures, 1 activity. Graphic Communication majors only. Prerequisite: GRC 320.

GRC 422 Human Resource Management Issues for Print and Digital Media (4)

Human resource management integrated into the success of graphic communication companies. A comprehensive management approach is utilized emphasizing policy development, training, safety, motivation, facilitation skills, team building and empowerment, ethical and legal issues in the printing industry. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 403 and senior standing.

GRC 429 Digital Media (3)

Current digital media technology and production including audio, video, e-books, and animation. Industry standards, digital rights management, file formats, and publishing options for digital media. Legal, ethical, and business issues surrounding digital media. 2 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: GRC 338.

GRC 431 Printing Plant Layout Analysis (3)

Elements of printing plant site selections, equipment planning, inventory planning, and workflow optimization. Design and layout of printing plants for effective space utilization. Organization of plant services. 2 lectures, 1 activity. Graphic Communication majors only. Prerequisite: GRC 421.

GRC 432 Imaging Systems Management (4)

Management issues associated with the introduction and use of computerized electronic prepress systems. Strategic, technical, marketing, financial, production, operational, and personnel aspects of color prepress work in a capital-intensive environment. 4 lectures. Prerequisite: GRC 338.

GRC 439 Book Design Technology (4)

Advanced creative problem-solving strategies associated with the technologies used in book design and production. Advanced techniques in page layout, design, typography, type specification and image manipulation as they relate to output technology. Content, format and distribution of print and electronic books. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: Senior standing, GRC 338.

GRC 440 Magazine and Newspaper Design Technology (4)

Concept development of magazine and publication design technology. Design and technical considerations as they relate to output technology. Application of organizational structures such as grids, formatting and sequential design. Advanced techniques in typography and image manipulation. Content, format and distribution of print and electronic magazines. 3 lectures, 1 laboratory. Graphic Communication majors only. Prerequisite: Senior standing, GRC 338.

GRC 451 Management Topics in Graphic Communication (3)

Current trends and practices in select graphic communication management topics. Open to undergraduate and graduate students. The Schedule of Classes will list topic selected. Total credit limited to 12 units. 3 lectures. Graphic Communication majors only. Prerequisite: GRC 101 and GRC 201.

GRC 452 Emerging Technologies in Graphic Communication (3)

Current trends and practices in select graphic communication emerging digital topics. Open to undergraduate and graduate students. The Schedule of Classes will list topic selected. Total credit limited to 12 units. 3 lectures. Graphic Communication majors only. Prerequisite: GRC 101 and GRC 201.

GRC 453 Design Reproduction Topics in Graphic Communication (3)

Current trends and practices in select graphic communication design reproduction topics. Open to undergraduate and graduate students. The Schedule of Classes will list topic selected. Total credit limited to 12 units. 3 lectures. Graphic Communication majors only. Prerequisite: GRC 101 and GRC 201.

GRC 460 Research Methods in Graphic Communication (2)

Research methods for preparing scholarly and defensible papers and senior projects, and in conducting qualitative and quantitative evaluations, testing, and research in graphic communication. Methods covered include statistical, historical, descriptive, questionnaires, interviewing, and sampling. 1 lecture, 1 activity. Graphic Communication majors only. Prerequisite: Senior standing and STAT 217.

GRC 461 Senior Project (3)

Selection and completion of a project under faculty supervision. Projects typical of problems which graduates must solve in their fields of employment. Project results are presented in formal report. Minimum 90 hours total time. Graphic Communication majors only. Prerequisite: GRC 460.

GRC 470 Selected Advanced Topics (1–4)

Directed group study of selected topics for advanced students. Open to undergraduate and graduate students. The Schedule of Classes will list title selected. Total credit limited to 8 units. 1–4 lectures. Prerequisite: GRC 101 and GRC 201 and Graphic Communication majors only.

GRC 471 Selected Advanced Laboratory (1–4)

Directed group laboratory study of selected topics for advanced students. Open to undergraduate and graduate students. The Schedule of Classes will list title selected. Total credit limited to 8 units. 1 to 4 laboratories. Graphic Communication majors only. Prerequisite: Consent of instructor.

GRC 472 Applied Graphic Communication Practices (2)

Application of theories and practices to University Graphic Systems as they apply to commercial printing, publication printing, digital media and graphic communication industries. Major credit limited to 4 units; total credit limited to 18 units. 2 lectures. Graphic Communication majors only. Prerequisite: GRC 101.

GRC 473 Applied Graphic Communication Management Practices (2)

Management theories and practices in the graphic communication industry. Application of theories and practices to University Graphic Systems as they apply to commercial printing, publication printing, digital media, marketing, sales, customer service, and production cost centers. Major credit limited to 6 units; total credit limited to 18 units. 2 lectures. Graphic Communication majors only. Prerequisite: GRC 472 and consent of instructor.

GRC 485 Cooperative Education Experience (6) (CR/NC)

Part-time work experience in business, industry, government, and other areas of student career interest. Positions are paid and usually require relocation and registration in course for two consecutive quarters. Formal report and evaluation by work supervisor required. Major credit limited to 12 units; total credit limited to 12 units. Credit/No Credit grading only. Graphic Communication majors only. Prerequisite: Sophomore standing and consent of instructor.

GRC 495 Cooperative Education Experience (12) (CR/NC)

Full-time work experience in business, industry, government, and other areas of student career interest. Positions are paid and usually require relocation and registration in course for two consecutive quarters. Formal report and evaluation by work supervisor required. Major credit limited to 12 units; total credit limited to 12 units. Credit/No Credit grading only. Graphic Communication majors only. Prerequisite: Sophomore standing and consent of instructor.

GRC 500 Special Problems in Document Systems Management for Graduate Students (2)

Investigation, research, studies of problems in document systems management. Repeated course over four quarters working with University Graphic Systems, the Graphic Communication Institute at Cal Poly, and

with individual faculty. Total credit limited to 8 units. Prerequisite: Second year MBA student, GRC 101 and GRC 201 or advisor approval.

GRC 595 Cooperative Education Experience (12) (CR/NC)

Advanced study analysis and full-time work experience in student's career field; current innovations, practices, and problems in administration, supervision, and organization of business, industry, and government. Must have demonstrated ability to do independent work and research in career field. Total credit limited to 12 units. Credit/No Credit grading only. Prerequisite: Graduate standing and consent of instructor.