GRAPHIC DESIGN (ARTGR)

Any experimental courses offered by ARTGR can be found at:

registrar.iastate.edu/faculty-staff/courses/explistings/ (http://www.registrar.iastate.edu/faculty-staff/courses/explistings/)

Courses primarily for undergraduates:

ARTGR 270: Graphic Design Studio I

(0-6) Cr. 3. F.

Prereq: DSN S 102, DSN S 131; admission to the graphic design program through department review

Introduction to the fundamental skills required in the graphic design profession.

ARTGR 271: Graphic Design Studio II

(0-6) Cr. 3. S.

Prereq: ARTGR 270

Reinforces and further explores the fundamental skills, principles, and tools required for effective visual communication.

ARTGR 272: Digital Photography for Graphic Design

(0-6) Cr. 3. F.S.

Prereq: Concurrent enrollment in ARTGR 270 OR ARTGR 271

This course will address the development of "seeing" as a medium design, expression, and visual communication including compositional dynamics, advanced digital image manipulation, software usage and support, digital camera operations along with scanning and other digital input devices, color management, digital format for presentation and printing with digital ready formats.

ARTGR 273: Typography I

(0-6) Cr. 3. F.

Prereg: Concurrent enrollment in ARTGR 270

Emphasizes foundational typographic principles from letterform construction to hierarchies of extended text, directed toward typographic vocabulary, and typographic organization. Students will also understand both classical and contemporary typographic forms, as well as having the ability to construct typographic compositions and systems.

ARTGR 274: Typography II

(0-6) Cr. 3. S.

Prereq: Concurrent enrollment in ARTGR 271

Advances the skills and principles learned in Graphic Design Typography

I. Exploration of more complex problems that address typographic hierarchy, context, sequence and typography and image.

ARTGR 275: Graphic Technology I

(0-4) Cr. 2. F.

Prereq: concurrent enrollment in ARTGR 270

Basic 2-dimensional computer skills for graphic design.

ARTGR 276: Graphic Technology II

(0-4) Cr. 2. S.

Prereq: ARTGR 275 and concurrent enrollment in ARTGR 271 Basic 3-dimensional computer skills for graphic design.

ARTGR 281: Visual Communication and Branding

(3-0) Cr. 3. F.

Introduction to basic principles of visual communication that contribute to the successful comprehension of intended visual messages; these include promotional messages, such as corporate branding and marketing campaigns, as well as informational messages, such as those used in computer interface design or in the clear presentation of diagrammatic data. Emphasis is placed on sensitivity to the diversity of the intended American or global audience, and to the crosscultural differences that may affect the ways that visual messages are interpreted. Methods for creating brand experiences are explored as they apply to both small and large enterprises, ranging from personal brand to corporate brand identities.

ARTGR 370: Graphic Design Studio III

(0-6) Cr. 3. F.

Prereq: ARTGR 271, ARTGR 276, and credit or concurrent enrollment in ARTGR 387

Creation and design of images and symbols for communication.

Application and integration of typography with images and symbols.

ARTGR 371: Graphic Design Studio IV

(0-6) Cr. 3. S.

Prereg: ARTGR 370 and ARTGR 387

Development and preparation of design concepts for application to the printing and electronic publishing process. Creative problem-solving skills, introduction to systems design.

ARTGR 372: Graphic Design Materials and Processes

(3-0) Cr. 3. S.

Prereq: Credit or concurrent enrollment in ARTGR 371

Lecture about the processes and materials involved in graphic design arts reproduction. Course covers pre-press, paper selection and specification, ink systems, type systems and fonts, output technology, printing presses and bindery operations.

ARTGR 377: Graphic Design Internship Seminar

(1-0) Cr. 1. S.

Prereq: Credit or concurrent enrollment in ARTGR 370 or ARTGR 371

Procedural and ethical concerns related to the graphic design internship.

Personal goals, preparation of resume and plans for internship. Study and tours of areas of interest within the graphic design profession.

ARTGR 378: Critical Issues in Graphic Design

(2-0) Cr. 2.

Prereg: Credit or concurrent enrollment in ARTGR 370

Lecture, discussion and writing about the critical issues facing the communications field today and in the future.

ARTGR 387: Graphic Design History/Theory/ Criticism I

(Dual-listed with ARTGR 587). (3-0) Cr. 3. F.

Late nineteenth century to the 1990s. This course will explore the cultural, social, political, industrial, and technological forces that have influenced the practice of graphic design in Britain, Europe, and the United States. Students will study the historical issues and problems facing designers, their clients, and their publics.

Meets International Perspectives Requirement.

ARTGR 388: Graphic Design History/Theory/ Criticism II

(Dual-listed with ARTGR 588). (3-0) Cr. 3. S.

Critical issues that affect the contemporary practice of graphic design as it relates to the United States. Students will study a variety of issues that include, but are not exclusive to, new media, gender, class, design and the public sphere, design as social action, postmodern design theory, sustainability, and ethical practice.

Meets U.S. Diversity Requirement

ARTGR 391: Graphic Design Field Study

(0-1) Cr. 1. Repeatable, maximum of 2 credits.

Prereq: Concurrent enrollment in 300 or 400 level graphic design studio course

Travel, study, and tours of areas of interest within the graphic design profession such as print production companies, design studios, and museums. Offered on a satisfactory-fail basis only.

ARTGR 463: 3D Motion Graphics

(Dual-listed with ARTGR 563). (0-6) Cr. 3. S.

Prereq: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470
3D visualization in a Motion Graphics context. Emphasis on design in 3D computer animation as it relates to various electronic media.

ARTGR 464: Digital Imaging

(Dual-listed with ARTGR 564). (0-6) Cr. 3. F.

Prereq: Concurrent enrollment in ARTGR 370, ARTGR 371 or ARTGR 470. Studio in experimental techniques using the digital drawing tablet combined with manual drawing mediums, exploring the digital tablet, scanner, and camera as ways to collect and make images, conceptual and compositional development of digital techniques and software, and connecting digital techniques to visual processes and ideation. Students will have a better understanding of different ways of working digitally while exploring image-making processes.

ARTGR 470: Graphic Design Studio V

(0-6) Cr. 3. F.

Prereg: ARTGR 371

Advanced design systems as applied to corporate identity and environmental graphic design. Symbology as an integrated component of communication systems.

ARTGR 471: Graphic Design Capstone

(0-6) Cr. 3. S.

Prereq: ARTGR 470 or permission of instructor

Experience design and innovation in a multi-disciplinary design studio. Class will use unique research, design, evaluation, creativity, and innovation methodologies to solve human problems on special topics. Designed solutions will be in the form of products, artifacts, interfaces, information, and human environments.

ARTGR 472: Photography and Narrative Message

(Dual-listed with ARTGR 572). (0-6) Cr. 3.

Prereq: Enrollment in ARTGR 370, ARTGR 371, ARTGR 470, or ARTGR 471
Photography as a tool for creating conceptually-driven images and metaphors. Emphasis is on photography as an evocative storytelling device for a range of audiences and design applications. Compositional and technical aspects are explored to ensure successful interpretation of the photograph's intended message.

ARTGR 473: Multimedia Design

(Dual-listed with ARTGR 573). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470 Graduate: graduate enrollment in College of Design
The design of visual, aural and textual communication for electronic media.

ARTGR 474: Exhibition Design

(Dual-listed with ARTGR 574). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470 Graduate: graduate enrollment in College of Design

Visual communication applied to exhibition design focusing on educational or interactive museum exhibitions, trade show booth design, and modular unit design for traveling exhibitions. Translation of graphic information to a three-dimensional space.

ARTGR 475: Advanced Typography

(Dual-listed with ARTGR 575). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470 Graduate: graduate classification in College of Design

Typographic theory exploring traditional and non-traditional forms, both historical and contemporary typographic achievements.

ARTGR 476: Graphic Design Methodology

(Dual-listed with ARTGR 576). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371 or ARTGR 470 Graduate: graduate enrollment in College of Design Analysis and application of scientific, systematic, and non-traditional problem-solving and problem-seeking techniques.

ARTGR 477: Graphic Design Practicum

(0-6) Cr. 3.

Prereq: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470 Graphic design outreach and problem solving. Individual and group projects for non-profit clients selected by the instructor.

ARTGR 478: Design for E-Commerce/Graphic Applications

(Dual-listed with ARTGR 578). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: Graduate enrollment in College of Design

The development of advanced and experimental web design for the applications of e-commerce, education and the communication of visual information.

ARTGR 479: Wayfinding Design

(Dual-listed with ARTGR 579). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: Graduate enrollment in College of Design Study of the navigational challenges of built environments and outdoor spaces, including site analysis, development of navigational plans, and design of wayfinding sign systems. Issues of function, accessibility, legibility, and fabrication are considered.

ARTGR 480: Graphic Design Internship

(3-0) Cr. 3. SS.

Prereq: ARTGR 377, 12 credits in graphic design; permission of instructor, registration in advance of enrollment

Graphic design experience in an off-campus professional environment.

ARTGR 481: Graphic Design Professional Practices

(3-0) Cr. 3. S.

Prereq: Credit or concurrent enrollment in ARTGR 470

Professional design management: ethics, setting up a new business, client/designer relationships, contractual options, billing practices, and effective operating procedures.

ARTGR 482: Professional Presentation

(0-6) Cr. 3. S.

Prereq: ARTGR 470 and concurrent enrollment in ARTGR 471 Exploration and development of job application materials and presentation skills.

ARTGR 484: Selected Studies in Graphic Design

(Dual-listed with ARTGR 584). Cr. 1-3. Repeatable, maximum of 9 credits. F.S.SS.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: graduate enrollment in College of Design.

Special issues related to graphic design. Topics vary each time offered.

ARTGR 490: Independent Study

Cr. 1-6. Repeatable.

Prereq: Written approval of instructor and department chair on required form in advance of semester of enrollment

Student must have completed related graphic design coursework appropriate to planned independent study. Offered on a graded basis or a satisfactory-fail basis.

ARTGR 490A: Independent Study: Theory, Criticism, and Methodology

Cr. 1-6. Repeatable.

Prereq: Written approval of instructor and department chair on required form in advance of semester of enrollment

Student must have completed related graphic design coursework appropriate to planned independent study. Offered on a graded basis or a satisfactory-fail basis.

ARTGR 490B: Independent Study: Two-Dimensional Design

Cr. 1-6. Repeatable.

Prereq: Written approval of instructor and department chair on required form in advance of semester of enrollment

Student must have completed related graphic design coursework appropriate to planned independent study. Offered on a graded basis or a satisfactory-fail basis.

ARTGR 490C: Independent Study: Three-Dimensional Design

Cr. 1-6. Repeatable.

Prereq: Written approval of instructor and department chair on required form in advance of semester of enrollment

Student must have completed related graphic design coursework appropriate to planned independent study. Offered on a graded basis or a satisfactory-fail basis.

ARTGR 490H: Independent Study: Honors

Cr. 1-6. Repeatable.

Prereq: Written approval of instructor and department chair on required form in advance of semester of enrollment

Student must have completed related graphic design coursework appropriate to planned independent study. Offered on a graded basis or a satisfactory-fail basis.

ARTGR 490I: Internship/Cooperative (in-depth experience other than ArtGr 480)

Cr. 1-6. Repeatable.

4

Prereq: Written approval of instructor and department chair on required form in advance of semester of enrollment

Student must have completed related graphic design coursework appropriate to planned independent study. Offered on a graded basis or a satisfactory-fail basis.

ARTGR 491: Publication Design

(Dual-listed with ARTGR 591). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: Graduate enrollment in College of Design.

The philosophy, concepts, and structures of publication design.

ARTGR 492: Graphic Design Systems Thinking

(Dual-listed with ARTGR 592). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: Graduate enrollment in College of Design.

The philosophy, concepts, and structures of systems thinking in graphic design.

ARTGR 493: Workshop

Cr. 1-3. Repeatable.

Prereq: Evidence of satisfactory experience in area of specialization Intensive 2 to 4 week studio exploration. Topics vary each time offered.

ARTGR 495: Graphic Design Abroad

(Dual-listed with ARTGR 595). Cr. 3. SS.

Prereq: Permission of instructor

International study abroad program with visits to design studios, art museums, and educational facilities.

ARTGR 496: Graphic Design Semester Abroad

Cr. R. Repeatable.

Prereq: Concurrent enrollment in Iowa State University Graphic Design Study Abroad Rome Program or an equivalent approved program; DSN S 301 is a prerequisite for students going to Rome.

Study and tours of museums, galleries, artist and/or designer studios, and other areas of interest within art and design. Offered on a satisfactory-fail basis only.

ARTGR 497: Graphic Design Field Study

(0-1) Cr. 1. Repeatable. F.S.SS.

Prereq: Acceptance to the undergraduate or graduate programs in graphic design.

Introduction to places related to graphic design in urban environments such as museums and design studios. Culture and context of design in the urban environment. Offered on a satisfactory-fail basis only.

Courses primarily for graduate students, open to qualified undergraduates:

ARTGR 510: Graphic Design Theory

(3-0) Cr. 3. F.

Prereq: Graduate classification in College of Design or permission of instructor.

This course will investigate graphic design as a tool to represent and create imageability in the mind of the audience, through relevant readings in graphic design theory and principles of visual organization in various media.

ARTGR 511: Graphic Design Graduate Studio I

(0-6) Cr. 3. F.

Prereq: Graduate classification in College of Design or permission of instructor.

Introduction to a range of research topics, methods, and ideas that are predicated on learning through the process of creation.

ARTGR 512: Audience and Perception

(0-6) Cr. 3. F.

Prereq: Graduate classification in College of Design or permission of instructor.

Theory and investigation of systems, structures, principles of visual organization for communication through the experimental application of traditional and non-traditional media. Studio problems will be influenced by social, cultural, environmental, or technological factors.

ARTGR 520: Design & Cultural Semiotics

(3-0) Cr. 3. S.

Prereq: Graduate classification in College of Design or permission of instructor.

Introduction to semiotics as it relates to art, design and culture. Historical and contemporary vantage points and the importance of designers as makers of meaning. Key concepts of semiotics and the interrelationship between message, meaning, design and culture.

ARTGR 521: Graphic Design Graduate Studio II

(0-6) Cr. 3. S.

Prereq: Enrollment in the Graphic Design Graduate Program.

In this advanced graduate graphic design studio led by a variety of faculty, students will be introduced to a range of research topics, methods and ideas that are predicated on learning through the process of creation.

Graphic Design (ARTGR)

ARTGR 522: Critical Media

(0-6) Cr. 3. S.

Prereq: Enrollment in the Graphic Design Graduate Program.

Advanced theory and investigation of critical media and application of principles of visual organization for communication. Through hypothetical design work with critical media tools, studio problems will examine and be informed by social, cultural, environmental, or technological factors.

ARTGR 530: User Engagement

(0-6) Cr. 3.

Prereq: Graduate enrollment in the Graphic Design Program or graduate enrollment in College of Design or permission of instructor

The exploration and design of interface/interaction with products, systems, and technologies.

ARTGR 531: Graphic Design Thesis Preparation

(0-1) Cr. 1. F.

Prereq: Acceptance to graphic design graduate program.

Exploration, formulation, and structuring of graduate thesis topic, investigation of design research and creative scholarship. Offered on a satisfactory-fail basis only.

ARTGR 540: Design for Behavioral Change.

(0-6) Cr. 3.

Prereq: Graduate enrollment in the Graphic Design Program or graduate enrollment in College of Design or permission of instructor

The exploration and design of educational experiences and artifacts as they relate to the social, emotional, and behavioral aspects of society.

ARTGR 563: 3D Motion Graphics

(Dual-listed with ARTGR 463). (0-6) Cr. 3. S.

Prereq: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470
3D visualization in a Motion Graphics context. Emphasis on design in 3D computer animation as it relates to various electronic media.

ARTGR 564: Digital Imaging

(Dual-listed with ARTGR 464). (0-6) Cr. 3. F.

Prereq: Concurrent enrollment in ARTGR 370, ARTGR 371 or ARTGR 470. Studio in experimental techniques using the digital drawing tablet combined with manual drawing mediums, exploring the digital tablet, scanner, and camera as ways to collect and make images, conceptual and compositional development of digital techniques and software, and connecting digital techniques to visual processes and ideation. Students will have a better understanding of different ways of working digitally while exploring image-making processes.

ARTGR 572: Photography and Narrative Message

(Dual-listed with ARTGR 472). (0-6) Cr. 3.

Prereq: Enrollment in ARTGR 370, ARTGR 371, ARTGR 470, or ARTGR 471

Photography as a tool for creating conceptually-driven images and metaphors. Emphasis is on photography as an evocative storytelling device for a range of audiences and design applications. Compositional and technical aspects are explored to ensure successful interpretation of the photograph's intended message.

ARTGR 573: Multimedia Design

(Dual-listed with ARTGR 473). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470 Graduate: graduate enrollment in College of Design
The design of visual, aural and textual communication for electronic media.

ARTGR 574: Exhibition Design

(Dual-listed with ARTGR 474). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470 Graduate: graduate enrollment in College of Design
Visual communication applied to exhibition design focusing on educational or interactive museum exhibitions, trade show booth design, and modular unit design for traveling exhibitions. Translation of graphic information to a three-dimensional space.

ARTGR 575: Advanced Typography

(Dual-listed with ARTGR 475). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470 Graduate: graduate classification in College of Design

Typographic theory exploring traditional and non-traditional forms, both historical and contemporary typographic achievements.

ARTGR 576: Graphic Design Methodology

(Dual-listed with ARTGR 476). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371 or ARTGR 470 Graduate: graduate enrollment in College of Design

Analysis and application of scientific, systematic, and non-traditional problem-solving and problem-seeking techniques.

ARTGR 578: Design for E-Commerce/Graphic Applications

(Dual-listed with ARTGR 478). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: Graduate enrollment in College of Design
The development of advanced and experimental web design for the applications of e-commerce, education and the communication of visual information.

ARTGR 579: Wayfinding Design

(Dual-listed with ARTGR 479). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: Graduate enrollment in College of Design
Study of the navigational challenges of built environments and outdoor spaces, including site analysis, development of navigational plans, and design of wayfinding sign systems. Issues of function, accessibility, legibility, and fabrication are considered.

ARTGR 584: Selected Studies in Graphic Design

(Dual-listed with ARTGR 484). Cr. 1-3. Repeatable, maximum of 9 credits. F.S.SS.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: graduate enrollment in College of Design.

Special issues related to graphic design. Topics vary each time offered.

ARTGR 587: Graphic Design History/Theory/ Criticism I

(Dual-listed with ARTGR 387). (3-0) Cr. 3. F.

Late nineteenth century to the 1990s. This course will explore the cultural, social, political, industrial, and technological forces that have influenced the practice of graphic design in Britain, Europe, and the United States. Students will study the historical issues and problems facing designers, their clients, and their publics.

Meets International Perspectives Requirement.

ARTGR 588: Graphic Design History/Theory/ Criticism II

(Dual-listed with ARTGR 388). (3-0) Cr. 3. S.

Critical issues that affect the contemporary practice of graphic design as it relates to the United States. Students will study a variety of issues that include, but are not exclusive to, new media, gender, class, design and the public sphere, design as social action, postmodern design theory, sustainability, and ethical practice.

Meets U.S. Diversity Requirement

ARTGR 589: Design and Ethics

(Cross-listed with HCI). (3-0) Cr. 3. F.S.

Prereq: Graduate classification or permission of instructor.

Issues in ethics and decision-making as they relate to technology, design, design research, HCl, and the design industry.

ARTGR 590: Special Topics

Cr. arr.

Prereq: Bachelor's degree in graphic design, or evidence of satisfactory equivalency in specialized area

Written approval of instructor and department chair on required form in advance of semester of enrollment.

ARTGR 590A: Special Topics: Theory, Criticism, and Methodology

Cr. arr.

Prereq: Bachelor's degree in graphic design, or evidence of satisfactory equivalency in specialized area

Written approval of instructor and department chair on required form in advance of semester of enrollment.

ARTGR 590B: Special Topics: Two-Dimensional Design

Cr. ar

Prereq: Bachelor's degree in graphic design, or evidence of satisfactory equivalency in specialized area

Written approval of instructor and department chair on required form in advance of semester of enrollment.

ARTGR 590C: Special Topics: Three-Dimensional Design

Cr. arr.

Prereq: Bachelor's degree in graphic design, or evidence of satisfactory equivalency in specialized area

Written approval of instructor and department chair on required form in advance of semester of enrollment.

ARTGR 591: Publication Design

(Dual-listed with ARTGR 491). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: Graduate enrollment in College of Design.

The philosophy, concepts, and structures of publication design.

ARTGR 592: Graphic Design Systems Thinking

(Dual-listed with ARTGR 492). (0-6) Cr. 3.

Prereq: Undergraduate: Concurrent enrollment in ARTGR 370, ARTGR 371, or ARTGR 470. Graduate: Graduate enrollment in College of Design.

The philosophy, concepts, and structures of systems thinking in graphic design.

ARTGR 593: Workshop

Cr. 1-3. Repeatable.

Prereq: Graduate classification; evidence of satisfactory experience in area of specialization

Intensive 2 to 4 week studio exploration. Topics vary each time offered.

ARTGR 595: Graphic Design Abroad

(Dual-listed with ARTGR 495). Cr. 3. SS.

Prereq: Permission of instructor

International study abroad program with visits to design studios, art museums, and educational facilities.

ARTGR 599: Creative Component

Cr. arr. Repeatable.

Courses for graduate students:

ARTGR 610: Thesis Preparation Studio

(0-6) Cr. 3. S.

Prereq: ARTGR 531, Graduate enrollment in the College of Design.

Initial development and exploration of graduate thesis topic, investigation of design research and creative scholarship. Determine Faculty

Committee and Program of Study and file forms with Graduate College.

ARTGR 620: Graduate Thesis Studio I

(0-6) Cr. 3. F.

Prereq: ArtGr 610.

Advanced creative scholarship in specialized area of focus within graphic design. Culminates in a development plan, preliminary design work, and supporting documentation.

ARTGR 630: Graduate Thesis Studio II

(0-6) Cr. 3. S.

Prereq: ArtGr 620

Advanced research component in specialized area of focus within graphic design. Advances a development plan, preliminary design work, and supporting documentation.

ARTGR 690: Advanced Topics

Cr. arr. Repeatable.

ARTGR 699: Research-Thesis

Cr. arr. Repeatable.