Careers in Communication

Where do you see your career taking you? User interface designer, information architect or web designer? Usability engineer, multimedia specialist, or graphic designer?

With an M.S. degree in Human-Computer Interaction (HCI), Technical Communication, or Communication and Rhetoric, you will be well placed to enter the job market – or make a major move. With one of our certificates in graphics or in human-computer interaction, you position yourself to become a leader in these specialized fields within the profession.

Our graduates work in all sectors of the profession – both public and private – as skilled practitioners, managers, and consultants. They have the skills to design and develop effective communication packages, to work with leading-edge media, and to collaborate with other technical professionals to produce specialized packages of integrated graphic and textual information to suit the needs of diverse audiences.

Our graduates have careers as information architects, graphic designers, usability engineers, multimedia designers, instructional and interface designers, and technical communicators. They find excellent jobs with little difficulty. Many have grown into team leader and management positions. Others have successfully started their own consulting businesses.

We offer three separate, but related, degrees. Graduates of our M.S. program in Technical Communication and the M.S. in Human-Computer Interaction (HCI) generally take positions in industry; graduates of our M.S. program in Communication and Rhetoric often continue their graduate education at the doctoral level at Rensselaer or other institutions.

To add depth to your communication knowledge and skills, you include either the Graphics or Human-Computer Interaction (HCI) certificates to the required M.S. coursework for the Technical Communication and Communication and Rhetoric degrees, unless your advisor and the M.S. advisory committee approve a different plan. Students working for the MS in HCI take the HCI certificate courses as part of their core requirements. Both certificates increase the skills and marketability of our M.S. graduates. Instead of these certificates, you may choose to take electives in communication, marketing and management (from Rensselaer’s Lally School of Management and Technology), or software engineering (from Rensselaer’s Department of Computer Science).
Program Goals: M.S. in Human-Computer Interaction (HCI)

The integration of computer systems and the Internet into the working world and home life have highlighted the need for professionals who can design human-computer interfaces that allow people to work intuitively in a wider range of contexts than ever before. The M.S. in Human-Computer Interaction (HCI) combines coursework in human-computer interaction with theory in allied areas such as technical communication, information design, and cognitive science, to help the next generation of designers and researchers meet the challenges these new contexts present.

Rensselaer’s approach to human-computer interaction differs from other HCI programs by being centered in communication rather than computer science. While the program will provide HCI implementation skills, the focus is on understanding and addressing basic problems in human-technology interaction, including the support of social interaction. Students will learn about cutting edge areas of HCI research through advanced seminars. They will leave the program with a portfolio-ready final project that demonstrates the integration of the skills they’ve acquired in the program.

Careers in HCI

Graduates are prepared to work as usability engineers, information architects, interaction and interface designers, user experience/HCI designers, or web designers, depending on the specific course selections students make.

Program Design and Coursework

The M.S. in HCI requires completion of ten courses. Seven courses must be those offered by Communication and Media, while others may be chosen from courses offered by Communication and Media or by other departments. Many students attending full-time on campus are able to complete the course requirements in a single academic year. Students taking courses part-time will need more than one academic year to complete the degree.

All students must complete the following required courses:

- **Theory and Research in Technical Communication and HCI** (COMM-6480).
- **Foundations of HCI Usability** (COMM-6420).
- **Communication Research I** (COMM-6530)
- **Communication Design for the World Wide Web** (COMM-6750).
- **Two or more courses in HCI Implementation**, such as **HCI Prototype Production** (COMM-6xxx), **Interactive Narrative** (COMM-6780), **Interactive Technologies: Designing for the Future** (COMM-4xxx), **Interface Design: Theory and Application** (COMM-4690), or **Information Architecture** (COMM-6620).
• **Two or more courses in Advanced HCI Topics**, such as **Human-Media Interaction (COMM-6xxx)**, **Media Studies (COMM-6790)**, **Psychological and Social Effects of Games (COMM-6xxx)**, **Digital Rhetoric (COMM-6270)**, or any other course that the Department designates as a graduate HCI course. Students may also petition to count an independent study or directed research project as Advanced HCI Topics.

• **Capstone Requirement**: **Studio Design in HCI (COMM-6810)** or **Professional Master’s Project (COMM-6970) (Terminal M.S. only)** or **Master’s Thesis (COMM-6990) (Ph.D. track)**.

• **Free Elective**: A course in communication, electronic arts, management, or other topic of interest.

Students who apply for a waiver for one of the above requirements may substitute one of the following:

• **Additional courses in Research Methods/Usability Testing** such as **Ethnography and Cultural Analysis (COMM-6410)**, or **Advanced Experimental Methods and Statistics (PSYC-4310)**.

• **Additional courses in Human Factors/Cognitive Psychology** such as **Cognitive Modeling (PSYC-4510)**.

• **Electives in Communication** chosen from Department offerings. Courses available in Web design, interface design, characters for games, and other areas.

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**Program Goals: M.S. in Technical Communication**

The M.S. in Technical Communication combines work in theory, writing, information design, and content production. Our students acquire knowledge of information and product usability, product design, rapid learning of electronic tools, and they gain practice with the information production skills needed to advance in a career as a technical communicator. Our graduates are equipped to keep up with rapid changes in information technology and in information design.

**Program Design and Coursework**

The M.S. in Technical Communication requires satisfactory completion of **ten courses**. Seven courses must be those offered by Communication and Media, while others may be chosen from courses offered by Communication and Media or by other departments. Students must also demonstrate competence with information technologies and gain practical experience as communication professionals. Many students are able to complete the course requirements in a single academic year; others spend three or more semesters. Since the Graduate School allows up to two and a half years to complete this degree, it is especially attractive to part-time students who are employed locally. Our department prides itself on our part-time students’ high rate of completing the certificate and M.S. programs.

All students must complete the following required courses:

• **Two writing courses** chosen from **Research Writing (WRIT-6410)**, **Writing About Science (WRIT-6160)**, **Writing for Promotion and Marketing (WRIT-6xxx)**, **Proposing and Persuading (WRIT-6550)** or any other course that the department designates as a graduate writing course.
• One theory course selected from Communication Theory I (COMM-6510), Rhetoric, Culture, and Communication Technology (COMM-6260), Theory and Research in Technical Communication and HCI (COMM-6480), or any other course that the department designates as a graduate theory course. Other courses may be designated for this requirement on a semester-by-semester basis.

• One course in visual design. Students may take Visual Design: Theory and Application (COMM-6560), or Visual Literacy (COMM-6660). Students with an academic background in layout and design may seek a waiver to select an alternative graduate graphics course.

• Capstone Requirement: Students earning the HCI Certificate can designate Studio Design in HCI (COMM-6810) as their Capstone course. Students earning the Graphics Certificate can designate Hypermedia Design and Development (COMM-6740) or Interactive Narrative (COMM-6780) for this purpose. Or, with the approval of their advisor and of the instructor, students may elect to do their Capstone via an internship in design or an independent study focused on extending the portfolio of work they developed in other courses. If students are using a graphics course to fulfill the Capstone requirement, they should indicate the course as such on both their Graduate Plan of Study and their Graphics Certificate Plan of Study. Students using a graphics course as their capstone must make arrangements with the professor at the beginning of the semester to do appropriate-level projects.

• Free Electives: Courses chosen in consultation with students’ advisors to meet the ten-course minimum requirement for graduation (at least half of which must be at the 6000 or graduate level). The Department strongly urges students to take either the HCI Certificate or Graphics Certificate as part of their elective courses.

Certificate in Graphics

Electronic design tools for the Web, multimedia, image-editing, page layout and drawing enable communicators easily to integrate text and graphics, but they also demand that communicators have command of both text and image-based information. To satisfy the market for this knowledge and skill set, Rensselaer offers a four-course graphics concentration both as a separate certificate and as part of the M.S. programs in Communication.

The Graphics Certificate program integrates design theory with in-depth studio work. It has been popular with both students and prospective employers. The Certificate includes the following courses divided into four groups. Students are required to take either Visual Design or Visual Literacy (Group 1), but may select any other combinations of courses as long as they work within the upper limits listed below:

• **Group 1:** Visual Design: Theory & Applic.* (COMM-6560) or Visual Literacy* (COMM-6660)  
  One of these courses is required for the M.S. in Technical Communication.

• **Group 2:** Up to three courses chosen from:
  - Information Design¹ (COMM-4470)
  - Advanced Typography¹ (COMM-4670)
  - Graphic Design for Corporate Identity¹ (COMM-4730)
  - Hypermedia Design and Development (COMM-6740)
  - Typography (COMM-6570)

  *One of these courses is required for the M.S. in Technical Communication.*
Rhetoric of the Photograph (COMM-6700)
Cross Cultural Graphics (COMM-6400) *
Visual Design: Theory & Application (COMM-6560) if not used as Group 1 *
Visual Literacy (COMM-6660) if not used as Group 1 *
Visual Poetics & Narrative (COMM-6xxx)
Topics Courses designated as graphics courses (COMM-49xx, COMM-69xx)

**Group 3:** Up to one course from one of the following courses, with focus on a graphics project:
Communication Internship (COMM-6300) or Communication Studies (Independent Study) (COMM-4940, COMM-6940).

**Group 4:** Up to one course from another department, subject to advisor and Graphics Curriculum Committee approval.

1No more than two courses may be taken at the 4000-level.

(Note: The department may, from time to time, designate other courses that fulfill requirements in any or all of these categories.)

**Certificate in Human-Computer Interaction (HCI)**

Working professionals and students looking for a focus in human-computer interaction can benefit from completing the Certificate in Human-Computer Interaction (HCI). The HCI Certificate gives students the skills and knowledge they need to work in this new environment that includes the Web, multimedia, usability, and still-developing technologies.

The HCI Certificate, designed in cooperation with industry experts, provides those involved in the design of human-computer interactions with the knowledge and skills they will need to create new and better ways for people to communicate with and through computers.

Students complete **four courses** to fulfill the requirements for the HCI Certificate. All graduate credits completed successfully under this certificate program (and not used to satisfy the credit requirements of an undergraduate degree at Rensselaer) can be applied towards the completion of the M.S. in Human-Computer Interaction (HCI). The HCI Certificate may be completed part-time, by registering for courses on a non-matriculating (non degree-seeking) basis. The Certificate may also be earned as an elective portion of the M.S. degree programs in Technical Communication or in Communication and Rhetoric, by matriculated students registering either full-time or part-time.

All students must complete the following required courses:

- **Foundations of HCI Usability** (COMM-6740),
- **Studio Design in HCI** (COMM-6810)
- **Two additional HCI courses from an approved list.** Courses may include **Information Architecture** (COMM-6620), **Communication Design for the WWW** (COMM-6750), **Psychological and Social Effects of Games** (COMM-6xxx), **Theory and Research in Technical Communication and HCI** (COMM-6480), **Interactive Technology: Designing for the Future** (COMM-49xx), **User-Centered Design** (COMM-6770), **HCI Prototype Production**

- (Note: The department may, from time to time, designate other courses that fulfill requirements for the HCI Certificate.)

**Program Goals: M.S. in Communication and Rhetoric**

Communication practitioners need a strong research base upon which to make design decisions. The M.S. in Communication and Rhetoric enables students to study the knowledge base of communication research, to gain research skills used in adding to that base, and to gain experience in applying research to practice. As part of their program, students are able to study Web interaction, human-computer communication, communication marketing, and other modes of technologically mediated communication.

The M.S. in Communication and Rhetoric draws on the core M.S. courses and also gives students a grounding in analytical methods and in the research literature of a specific theoretical area. The program prepares students for applied research in industry or government, or for further study in a doctoral program at Rensselaer or elsewhere.

The program accepts students from discourse-related fields such as English, communication arts, or journalism and students with research experience in the social sciences, physical sciences, or engineering.

**Program Design and Coursework**

The M.S. in Communication and Rhetoric requires satisfactory completion of ten courses. Seven courses must be those offered by Communication and Media, while others may be chosen from courses offered by Communication and Media or by other departments.

The required courses, and research project or thesis (Capstone), give students an understanding of theory, practice, and methods needed for independent research. The electives enable students to acquire additional skills and knowledge in areas suited to their individual interests.

All students must complete the following required courses:

- *One theory course* selected from Communication Theory I (COMM-6510), Rhetoric, Culture, and Technology (COMM-6260), or Theory and Research in Technical Communication and HCI (COMM-6480). Other courses may be designated for this requirement on a semester-by-semester basis.

- *One writing course* selected from Research Writing (WRIT-6410), Writing About Science (WRIT-6160), Writing for Promotion and Marketing (WRIT-6xxx), Proposing and Persuading (WRIT-6550) or any other course that the Department designates as a graduate writing course.
• **One research methods course** selected from **Communication Research I** (COMM-6530), **Ethnography and Cultural Analysis** (COMM-6410), or **Rhetorical Analysis** (COMM-6280).

• **An additional research methods course** to be chosen from the Department’s offerings or from another department, such as the Department of Cognitive Science or the Department of Science and Technology Studies. This methods course may fall into critical, qualitative, or quantitative areas. The specific choice of a course should be guided by each student’s career goals.

• **Three courses in a theoretical area** that will give students command of the scholarly literature in a field. Theoretical areas are described below. Students will choose specific courses in consultation with their advisors.

• **Capstone Requirement:** **Communication Capstone Project** (Independent Study) (COMM-6940) or **Master’s Thesis** (COMM-6990). The Capstone project and thesis are intended to demonstrate students’ ability to conduct independent scholarship. This independent work should build on work done in the methods courses and on the knowledge gained from the theoretical area and courses chosen by individual students.

• **Free Electives:** Courses chosen in consultation with students’ advisors to meet the ten-course minimum requirement for graduation. Electives may be chosen from among course offerings in the Department of Communication and Media and from other academic units such as Cognitive Science, Science and Technology Studies, and the Lally School of Management and Technology. The Department strongly urges students to take either the **HCI Certificate** or **Graphics Certificate** as part of their elective courses.

### Theoretical Areas

The theoretical areas described below are samples that are drawn from courses regularly made available by the Department. Students may work out different theoretical areas with their advisors and with an eye to future employment or doctoral work.

### Communication and Electronic Technologies

Courses in this area address the effects of electronic media and the role of media in work and interpersonal processes. Students selecting this concentration are likely to conduct usability tests in industry or conduct studies of media effects in academe.

<table>
<thead>
<tr>
<th>Communication Design for the WWW</th>
<th>Psych. and Social Effects of Games</th>
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<tbody>
<tr>
<td>Foundations of HCI Usability</td>
<td>User-Centered Design</td>
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<tr>
<td>Media and Popular Culture</td>
<td>HCI Prototype Production</td>
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<tr>
<td>Human-Media Interaction</td>
<td>Course designated as a graduate communication course</td>
</tr>
<tr>
<td>Interface Design: Theory and Application</td>
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### Media Design and Theory
Courses in media design and theory offer scholarly work on effective layout and content for electronic media. Students selecting this concentration likely will apply their knowledge to analysis and design of specific media production decisions or may conduct applied media research in academia.

Cross-Cultural Graphics  
Interface Design: Theory and Application  
HCI Prototype Production  
Interactive Narrative  
Media Studies  

Rhetoric of the Photograph  
Studio Design in HCI  
Visual Literacy  
Typography  
Visual Design: Theory and Research

**Rhetoric and Culture**

Courses in this area take an explicitly humanistic perspective on analysis of communication and media. Students selecting this concentration are likely to go on to conduct humanistic research in rhetoric, popular culture, or literary fields. Many, though not all, students selecting this area are likely to work in academic rather than industry settings.

Advertising and Culture  
Cultural Theory  
Film Theory  
Human-Media Interaction  

Media and Memory  
Media and Popular Culture  
Rhetoric, Culture, and Technology  
Rhetorical Analysis

**Constructed with the Students’ Advisor**

Students may, with the aid of their advisors, develop different theoretical concentrations from those described in the preceding three options. Since course offerings are rotated through the schedules for any given year, students should ensure that they will have access to desired courses when they need them.

Courses for these theoretical areas are added regularly to Department course offerings. Students will be able to go beyond the courses listed here when making their selections and should not regard these lists as exhaustive.

**Placement of Graduates**

Listed here are a sampling of positions at companies or organizations obtained by M.S. students who graduated during the last fifteen years.

Adirondack Comm. College  
Agora Games (subs. of Major League Gaming)  
Albany *TIMES UNION*  
American Express  
Arthur Andersen Technical Solutions  
AT&T  
Autotask Corporation  
AXA Equitable  
Bank of America  
Bard College  
Boeing Corporation  
Bryant and Stratton College  
Cadence Design Systems  

Centennial Olympic Park (Atlanta)  
Chase Manhattan Bank  
Click2Learn.com (formerly Asymetrix)  
Commercheub  
ComponentOne  
Dell Computer Corp.  
Deutsche Bank  
Digital Page  
Documentation Strategies  
Donnelly Enterprise Solutions  
Drexel University  
Elcom.com  
Empire Blue Cross/Blue Shield
Other M.S. graduates have gone on to doctoral study at Rensselaer or other universities (such as MIT, Indiana/Purdue, Stanford, etc.), as well as Medical School, Law School, and M.F.A. programs. Still others have worked as independent consultants to any number of companies or organizations, and a number have successfully started their own businesses.

**Requirements for Admission**

Applicants to Rensselaer’s M.S. programs in Human-Computer Interaction, Technical Communication or Communication and Rhetoric need to supply five types of information (in addition to the Rensselaer Graduate Application form):

- Transcripts of college-level courses previously taken or degrees completed;
- Verbal, quantitative, and analytical writing scores on the Graduate Record Examination (minimum score requirements apply);
- At least two letters of recommendation from people who can comment on the applicant’s academic preparation and/or professional experience;
Financial Assistance

Cooperative Education Options

Participation in the Cooperative Education Program is an option for our graduate students. The intent of co-op is to provide a full-time, paid, career-related work experience that will enhance students’ knowledge and skills in their chosen professional field and give them practical experience; a concrete application for their academic work; and a way to test their interest in certain types of work. Students who accept co-op assignments typically work from one to two terms prior to graduation. As a result, it is not uncommon for co-op participants to extend their graduation date.

Before accepting a co-op assignment, graduate students must have completed the core requirement of a graduate writing course or Foundations of HCI Usability (COMM-6820), one (1) additional COMMUNICATION AND MEDIA course (such as a theory or research methods course), and have matriculated in the department as a full-time graduate student for at least one semester.

Students may continue their education while on assignment by registering for Communication Studies (COMM 6940), or they may petition the department’s Graduate Transfer Credit Committee to take credits elsewhere. While working on co-op, students will also be registered for Co-op Industrial Assignment and will be considered full-time, regular students.

Please note that international students with an F1 visa must receive permission to work from the Cooperative Education and International Student Services offices to fulfill Immigration and Naturalization Service requirements.

For more information on cooperative education at Rensselaer, visit the cooperative education pages of the website of the Center for Career and Professional Development at http://www.rpi.edu/dept/cdc/students/flipbooks/Co%20op%20Guide%202010-2011/index.html

Teaching and Research Assistantships

The department offers a limited number of teaching and research assistantships (T.A./R.A.s) to students pursuing the Ph.D. degree or the M.S./Ph.D. combination. M.S.-only students may be considered for externally-funded research assistantships.
Communication Internships

The department also offers local placement opportunities through Communication Internship (COMM-6300). Internships may provide technical competency and writing experience. Discuss these opportunities on an individual basis with the faculty member who offers Communication Internship (COMM-6300) as well as department and campus advisors.

Assistantships and Loans

Applicants who wish to be considered for a research assistantship (if available) should indicate their interest in the space provided on the admission application and be sure that this application, all supporting materials and GRE test scores reach the Office of Graduate Academic and Enrollment Services/Rensselaer Admissions by January 1st.

In addition to co-ops and scholarships, graduate student, low-interest loans are also available through the following federal loan programs:

   - Stafford Loan Program;
   - PLUS Loans;
   - Perkins Loan Program.

Most of these loans require you to file the Financial Aid Form (FAF), available from our Financial Aid Office, to determine your eligibility. Processing the FAF takes 4-6 weeks, so students are encouraged to begin investigating this possible source of funding in advance of the departmental financial aid decisions.

For an information packet, including the FAF, please call:

Financial Aid Office
Rensselaer Polytechnic Institute
Troy, New York 12180-3590
(518) 276-6813

Or visit the Financial Aid section of the Graduate Admissions website at http://admissions.rpi.edu/graduate/financial_support.html for downloadable forms and information.

Faculty

Faculty in the Department of Communication and Media do theoretical, empirical, and applied work on a wide range of topics including visual design theory and practice; computer animation and hypermedia interface design; cross-cultural and culture-specific communication; computer-mediated collaborative design; user-centered and participatory design; advertising and communication; health communication; Social-psychological consequences of human interaction with media; religion and media; ethnotourism; analysis and design of interactive interfaces; usability testing and design; rhetorical theory and history;
public memory/collective memory; design for social change; writing in disciplines, the professions, and across the curriculum; rethinking “literacy”; interactive storytelling; indigenous knowledge and interaction design; transmedia; designing classes as games; digital rhetoric/digital media; and language/culture learning via technology.

Many of our faculty consult in business and government, where they use their knowledge of theory and research to solve specific problems in written, spoken, and computer-mediated communication. Communication and Media faculty are active in professional organizations, having served as national or regional officers of such organizations as the National and International Communication Associations (NCA, ICA), Conference on College Composition and Communication, the Society for Technical Communication (STC), the IEEE Professional Communication Society, the Rhetoric Society of America (RSA), the Association for Computing Machinery’s Special Interest Group in Computer-Human Interaction (SIGCHI), the IGDA (International Game Developers Association), AIGA/Professional Association for Design, the Digital Government Conference, the Popular Culture Association, and the Academy of Management.

Finally, Communication and Media faculty serve on editorial boards of major presses (such as the Massachusetts Institute of Technology and the State University of New York) and are associated with a number of professional journals. In fact, *The Journal of Technical Writing and Communication* and *The Electronic Journal of Communication* were established at Rensselaer. Other department faculty have served as reviewers or editorial board members of such journals as *Advances in the History of Rhetoric, Human Communications Research, Written Communication, Rhetoric Review, Technical Communication, Journal of Personal and Social Relations, Computers and Composition, Journal of Advanced Composition, College Composition and Communication, Journal of Online Behavior, Journal of Computer-Mediated Communication, Communication Theory, Communication Research, Organization Science, Journal of Business and Technical Communication, and Communication Education.*

### Students’ Backgrounds

Students in our M.S. programs come from diverse backgrounds. The make-up of an entering class may vary somewhat, but recent years have included the following mix:

- Many of our on-campus students (approximately half) come to Rensselaer either immediately after college or within two years after completing their bachelor’s degree. An almost equal number of on-campus students come to us with from five to ten years or more of work experience.

- Between one-third and one-half of our students are likely to have undergraduate degrees in the humanities. An increasing proportion of these students have undergraduate courses in electronic media, the Web, and the arts.

- Approximately one-half to two-thirds are likely to have done their undergraduate work in the physical sciences (biology, chemistry, biochemistry); social sciences (psychology, anthropology, economics); journalism; or computer science/information technology.

This diversity contributes a great deal to the social and academic environment of the department. Students and faculty alike find that their own perspectives are enriched by contact with people of varied work experience and academic training.