

## Telecommunications

### College of Arts and Sciences Bloomington

**Chairperson**

Professor Walter Gantz\*

**Departmental E-mail**[ttheodor@indiana.edu](mailto:ttheodor@indiana.edu)**Departmental URL**[www.indiana.edu/~telecom](http://www.indiana.edu/~telecom)

### Graduate Faculty

(An asterisk [\*] denotes membership in the University Graduate School faculty with the endorsement to direct doctoral dissertations.)

**Professors**

Richard Burke\* (Emeritus), Edward J. Castronova\*, Barbara Cherry\*, Susan Eastman\* (Emerita), Walter Gantz\*, Annie Lang\*, Michael McGregor\*, Harmeet Singh Sawhney\*, David H. Waterman\*

**Associate Professors**

Erik Page Bucy\*, Julia R. Fox\*, Robert Frank Potter\*, Herbert A. Terry\*

**Assistant Professors**

Andrew James Bucksbarg, Nicole Martins, Bryant M. Paul, Lee Sheldon

**Director of Graduate Studies**

Professor Maria Elizabeth Grabe\*, Radio-TV Center,  
(812) 856-2460

### Degrees Offered

Master of Arts, Master of Science, Joint Master of Arts or Master of Science and Doctor of Jurisprudence (jointly with the School of Law), Joint Master of Arts or Master of Science and Master of Business Administration (jointly with the Kelley School of Business), and Doctor of Philosophy (Ph.D. telecommunications track in the Mass Communications Program)

University Graduate School  
Kirkwood Hall 111  
Indiana University  
Bloomington, IN 47405  
(812) 855-8853  
Contact: [grdschl@indiana.edu](mailto:grdschl@indiana.edu)

### Special Departmental Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

The M.A. in Telecommunications is designed to train students for academic careers in communications and related fields. Graduates will be prepared to enter a Ph.D. program, teach at small colleges, or accept analytical and research positions in media and creative industries.

**Admission Requirements**

1. At least a B (3.0) average in an undergraduate program,
2. appropriate level of performance on the Graduate Record Examination General Test (all scores above 500 or verbal and quantitative scores above 500 and analytical score at or above 4.0),
3. statement of purpose,
4. three letters of recommendation,
5. completion of departmental "Background Information" form, and
6. paper TOEFL score greater than 600, computer-based TOEFL score greater than 250, or Internet-based TOEFL score greater than 100 for international students.

Applications from students who have not majored in communication at the bachelor's level are welcomed. If admitted, these students may be required to take supplementary courses.

**Grades**

B (3.0) average or above. Any semester's work averaging less than B will result in the student's being placed on academic probation. Accumulation of three individual course grades of C (2.0) or lower for graduate credit will result in dismissal of the student from the program. The departmental Graduate Committee evaluates each student's progress toward the degree every semester.

**Advisory Committee**

Each student will receive initial guidance from a faculty member assigned by the Director of Graduate Studies. During the second semester, each student will select a three-member Advisory Committee that will be responsible for approving the student's Program of Study, the thesis and granting approval for the degree. At least two members of the Advisory Committee must be from the Department of Telecommunications. Students who fail to select an Advisory Committee or construct a Program of Study by the end of the second semester in the program will be considered as making inadequate progress toward the degree.

### Course Requirements

A minimum of 30 credit hours, including

1. T501 Philosophy of Inquiry in Telecommunications, T502 Introduction to Research Methods in Telecommunications, and either T503 Telecommunications Theory or T504 Telecommunications Policy Studies, with a grade of B (3.0) or above.
2. M.A. Thesis, normally taken for 6 credit hours.
3. A Program of Study listing all courses toward the degree, approved by the student's Advisory Committee.

At least 21 credit hours must be taken within the Department of Telecommunications. Students must take at least three courses related to their thesis topic.

### Thesis

Oral defense required, administered by the Advisory Committee.

## Master of Science Degree

The M.S. in Telecommunications is designed to prepare students for professional careers in media design, production, and management.

### Admission Requirements

1. At least a B (3.0) average in an undergraduate program,
2. appropriate level of performance on the Graduate Record Examination General Test (all scores above 500 or verbal and quantitative scores above 500 and analytical score at or above 4.0),
3. statement of purpose,
4. three letters of recommendation,
5. completion of departmental "Background Information" form, and
6. paper TOEFL score greater than 600, computer-based TOEFL score greater than 250, or internet-based TOEFL score greater than 100 for international students.

Applications from students who have not majored in communication at the bachelor's level are welcomed. If admitted, these students may be required to take supplementary courses.

### Grades

B (3.0) average or above. Any semester's work averaging less than B will result in the student's being placed on academic probation. Accumulation of three individual course grades of C (2.0) or lower for graduate credit will result in dismissal of the student from the program. The departmental Graduate Committee evaluates each student's progress toward the degree every semester.

### Advisory Committee

Each student will receive initial guidance from a faculty member assigned by the Director of Graduate Studies. During the second semester, each student will select a three-member Advisory Committee that will be responsible for approving the student's Program of Study, administering the final exam,

and granting approval for the degree. At least two members of the Advisory Committee must be from the Department of Telecommunications. Students who fail to select an Advisory Committee or construct a Program of Study by the end of the second semester in the program will be considered as making inadequate progress toward the degree.

### Course Requirements

A minimum of 36 credit hours, including

1. T505 Media Organizations, with a grade of B (3.0) or above.
2. One core course corresponding to a chosen concentration area, with a grade of B (3.0) or above.
  - Game Design Concentration: TEL 580 Interactive Storytelling and Computer Games
  - Management Concentration: TEL 522 Managing the Creative Process
3. A Program of Study listing all courses toward the degree, approved by the student's Advisory Committee.

At least 18 credit hours must be taken within the Department of Telecommunications.

### Final Examination

Students must pass a comprehensive written and oral examination, administered by the Advisory Committee. The exam consists of:

1. Written questions on core coursework, written questions on elective coursework, and an oral defense.  
OR
2. Written questions on core coursework, written questions on a media design project, and an oral defense.

## Joint Degree: Master of Arts or Master of Science in Telecommunications and Doctor of Jurisprudence in the School of Law

To be eligible to receive the degrees of Doctor of Jurisprudence and Master of Arts or Master of Science in Telecommunications, which must be received simultaneously, a student must:

1. complete 79 semester hours of credit in the School of Law including all of the required course work; and
2. complete 27 hours of credit in the Department of Telecommunications, including all of its required course work; and
3. earn a cumulative grade point average of at least 2.3 on all work taken in the School of Law and at least 3.0 on all work taken in the Department of Telecommunications.

## Joint Degree: Master of Arts or Master of Science in Telecommunications and Master of Business Administration in the Kelley School of Business

To be eligible to receive the degrees of Master of Business Administration and Master of Arts or Master of Science in Telecommunications, which must be received simultaneously, a student must:

1. complete 42 credit hours in the Kelley School of Business, including all of the required course work; and
2. complete 27 credit hours for the Master of Arts in Telecommunications or 33 credit hours for the Master of Science in Telecommunications, including all of the required course work; and
3. earn a cumulative grade point average of at least 3.0 on all work taken in the telecommunications program and a cumulative grade point average of at least 2.75 on all work taken in the Kelley School of Business; and
4. be in residence for six semesters (or their equivalent of full-time resident study; three of these semesters must be in telecommunications and three must be in the Kelley School of Business).

## Doctor of Philosophy Degree in Mass Communications: Telecommunications Track

The Department of Telecommunications, in cooperation with the School of Journalism, offers a doctoral program in mass communications.

### Admission Requirements

1. Master's degree from a recognized institution,
2. at least a 3.5 grade point average in a master's program,
3. appropriate level of achievement on the Graduate Record Examination General Test (all scores above 500 or verbal and quantitative score above 500 and analytical score at or above 4.0),
4. statement of purpose,
5. three letters of recommendation,
6. completion of departmental "Background Information" form,
7. paper TOEFL score greater than 600, computer-based TOEFL score greater than 250, or Internet-based TOEFL score greater than 100 for international students, and
8. writing sample.

Applications from students who have not majored in communication at the master's level are welcomed. If admitted, these students may be required to take supplementary courses. Consult the director of graduate studies as to whether graduate credit might be granted for a non-communication master's degree and if supplementary course work is necessary.

### Grades

As described above for master's programs.

### Advisory Committee

Each student will receive initial guidance from a faculty member assigned by the Director of Graduate Studies. During the second semester, each student will select an Advisory Committee consisting of at least two members from the major area and one from another. Students who fail to select an Advisory Committee or construct a Program of Study by the end of the second semester in the program will be considered as making inadequate progress toward the degree.

### Course Requirements

A minimum of 90 credit hours, including

1. The core consisting of T501 Philosophy of Inquiry in Telecommunications, T502 Introduction to Research Methods in Telecommunications, T503 Telecommunications Theory, and T504 Introduction to Telecommunications Policy Studies with a grade of at least a B in each course;
2. 600 Proseminar in Telecommunications Research for four semesters;
3. 12 credit hours in a methodology area;
4. a minimum of six courses in the Department of Telecommunications if student is transferring 16-30 credits, eight courses if transferring 1-15 credits, and 10 courses (at least four completed after receipt of the M.A.) if student has an M.A. from this department;
5. completion of a minor as required by the minor department;
6. no more than 6 credits of independent study;
7. no more than 15 credit hours in the dissertation,
8. a Program of Study listing all courses toward the degree, approved by the student's Advisory Committee.

Within these requirements, students design a rigorous and coherent individualized plan of study with the help of their advisory committee. This program is to be approved by the student's advisory committee, the graduate director (with the advice of the graduate committee), and the department chair by the end of the second semester of course work.

### Minor

Consistent with University Graduate School policy, each student must have at least one minor subject. Course work in the minor must be approved by the student's advisory committee and must meet the requirements of the minor department.

### Research Skill Requirement

12 credits of appropriate research skills courses approved by the student's advisory committee (see number 3 under "Course Requirements" above).

### Qualifying Examination

Written and oral, covering the methodology area, the core, the minor, and the student's individualized areas of specialization.

### Teaching or Research Requirement

Students normally serve at least one year as associate instructors or research assistants. This requirement will be waived only when, in the opinion of the departmental chairperson, unusual circumstances justify such action.

## Final Examination

Oral, primarily a defense of the dissertation.

## Ph.D. Minor in Telecommunications

Graduate students from other departments may choose telecommunications as an outside minor. A minimum of 15 credits in the department at the 500 level or above is required, including T501.

## Courses

### T501 Philosophy of Inquiry in Telecommunications (3 cr.)

Entry-level comparative study of the origin and development of dominant paradigms applied to telecommunications by researchers and policy makers.

**T502 Introduction to Research Methods in Telecommunications (3 cr.)** Introduction to quantitative and qualitative research methodologies used in telecommunications.

**T503 Telecommunications Theory (3 cr.)** Introduces students to the wide range of social scientific theories that guide research in telecommunications.

**T504 Introduction to Telecommunications Policy Studies (3 cr.)** Introduction to the graduate-level study of telecommunications law and policy and its intersection with economics and technology. Fundamental principles and theories of telecommunications law, policy, and policy making. Methodological approaches.

**T505 Media Organizations (3 cr.)** Introduces students to the production, financing, marketing, and management of media from an organizational perspective. The goal is to prepare students to work in a changing media environment.

**T510 Research Methods in Message Analysis (3 cr.)** Methods of analyzing the content of mediated messages. Applications of content analysis techniques to research projects involving new or traditional media.

**T511 Research Methods in Audience Analysis (3 cr.)** Analysis of audience characteristics and behaviors. Emphasizes methods associated with the assessment of, and audiences for, the electronic media.

**T512 Communication and Politics (3 cr.)** Social scientific theories of political message effects and normative models of media and democracy. Analysis of political advertising, campaign communication, civic participation, and the role of new media in politics.

**T521 Telecommunications Management (3 cr.)** Theories of personnel and systems management applied to the technology-based consumer media of broadcasting, cable, voice, and network access providers. Considers broad issues of programming, infrastructure, finance, competition, corporate and industry structure, budget, and regulations.

**T522 Managing the Creative Process (3 cr.)** Examination of the business side of video production with emphasis on the role of the producer and/or production manager, including production team organization, schedules, budgets, contracts, markets, and intellectual property.

**T530 Legal Environment of Telecommunications (3 cr.)** P: T504 or consent of instructor. Analysis of laws and policies affecting the telecommunications industry and its consumers. Regulation of broadcasting, cable television, telephony, and the Internet. Introduction to First Amendment aspects of telecommunications and to antitrust and intellectual property law.

**T532 Economics of the Media Industries (3 cr.)** Application of economic principles to policy and strategy issues in the print, online, broadcasting, multichannel, home video, and motion picture industries.

**T535 Economics of Information (3 cr.)** The production, distribution, and pricing of information products and services; intellectual property and new technologies; information networks and compatibility. Policy and strategy applications.

**T540 Special Projects in Telecommunications (1-3 cr.)** P: Consent of project advisor and chairperson. Individual readings or production projects in telecommunications.

**T551 Communication, Technology, and Society (3 cr.)** Research seminar to consider the impact of new technologies on society and how the development and structure of information and communication technologies have been influenced by society. Theories of technology at the social level of analysis.

**T552 Cognitive Approaches to Media (3 cr.)** Examines the information processing of mediated messages and theories underlying memory, attention, and cognition. Advanced analysis of cognitive psychology and emotion theory as they apply to the study of media.

**T560 Business Strategies of Communication Firms (3 cr.)** Case studies in marketing and competitive strategies of media and telecommunications firms. Effects of technological change on industry structure and strategy.

**T570 Art, Entertainment, and Information (3 cr.)** Introduces students to the idea of information as art and as entertainment through readings and multimedia experience. Students will learn basic tools of multimedia design, interactive programming, digital paint and draw tools, and 3-D software.

**T571 Applied Cognitive and Emotional Psychology (3 cr.)** Introduces students to basic theories in cognitive and emotional psychology and focuses on how these theories could be applied to the design of immersive mediated environments.

**T575 Directed Group New Media Design Project (3 cr.)** P: Consent of instructor. Group project in new media design. Each class will develop, design, and implement a new media product. May be repeated for a maximum of 6 credit hours.

**T576 New Media Production (var. 1-2 cr.)** P: Consent of instructor. Training in traditional and new media production including utilization of new media software packages. In addition to production training, completion of a critical assessment paper in an area of production. May be repeated for up to 4 credits.

**T580 Interactive Storytelling and Computer Games (3 cr.)** Students work in teams to develop interactive stories and games using graphics, animation, sound, and text.

**T583 Teaching Electronic Media Production (3 cr.)** P: Consent of instructor. Graduate students review and refine basic production skills in preparation for teaching positions. Basic media production concepts, techniques, and hands-on training. Prior understanding of the production process is expected.

**T585 Interactivity and New Media (3 cr.)** Theoretical and applied perspectives on interactive communications. Surveys the literature of interactivity and new media, examining relevant concepts such as parasocial interaction, entertainment education, and remediation. Social and psychological consequences of interactivity.

**T597 Internship (0-3 cr.)** P: Consent of faculty advisor. Supervised internship in telecommunications, electronic media, or multimedia design.

**T600 Proseminar in Telecommunications Research (1 cr.)** Introduction to current telecommunications research through the work of departmental members and visiting scholars. May be repeated for 1 credit each semester up to four semesters.

**T601 Topical Seminar in Telecommunications Technology and Policy (1-3 cr.)** P: Consent of instructor.

**T602 Topical Seminar in Telecommunications Processes and Effects (1-3 cr.)** P: Consent of instructor.

**T603 Topical Seminar in Telecommunications Management (1-3 cr.)** P: Consent of instructor.

**T605 Seminar in Immersive Mediated Environments (1 cr.)** Introduction to current research in immersive mediated environments such as virtual reality, telepresence, and new media entertainment through the work of faculty members from Indiana University and visiting scholars. May be repeated for a maximum of 4 credit hours.

**T610 The Networked Society (3 cr.)** Analysis of the social, economic, and cultural forces that have set in motion the rise of the networked society. The conceptualization and creation of large-scale networks; new modes of organization.

**T629 Telecommunications Policy Making (3 cr.)** P: T504 or consent of instructor. Models and theories of telecommunications policy making in the United States. Analysis of selected contemporary policy issues and controversies.

**T635 Comparative Telecommunications Policy (3 cr.)** P: T504 or consent of instructor. Comparison of telecommunications policy and policy making in the United States with the policies and policy systems of other nations and of international and transnational organizations.

**T641 Children and Media (3 cr.)** P: T503 or equivalent. Detailed examination of theoretical orientations and research specifically focused on children and media.

**T642 Communication Campaigns (3 cr.)** Study of public communication campaigns, emphasizing the role of media in influencing attitudes and behavior related to social issues.

**T650 Telecommunications and the Constitution (3 cr.)** P: T504 or consent of instructor. Impact of the Constitution of the United States on telecommunications law and policy, the telecommunications industries, and the public. Emphasis on the First Amendment. Analysis of the Supreme Court as a telecommunications policy making institution.

**T800 Thesis: Telecommunications (1-6 cr.)\*\*** P: Consent of instructor.

**G741 Ph.D. Research in Mass Communications (cr. arr.)\*\*** P: Consent of instructor.

\*\*These courses are eligible for a deferred grade.