

# COMMUNICATION: DATA & NETWORK SCIENCE, BA

## General Communication Degree Description:

Communication is an interdisciplinary field that draws from the humanities, social sciences, and sciences. The undergraduate Communication program focuses on the theoretical, critical, and empirical examination of fundamental communication systems, institutions, processes, and effects. Communication majors gain deep insight into how communication shapes our individual and collective social, political, economic, and cultural lives; both historical and contemporary, local and global. Our majors learn and employ a range of theories and research methods, including quantitative approaches such as survey research, experiments, content analysis, and computational science; and qualitative approaches such as historical, textual and discourse analysis, focus groups, and ethnographic fieldwork. In doing so, they produce scholarship that is rigorous, relevant, and multi-modal.

The major in Communication is granted by the College of Arts and Sciences, but the 14-credit major curriculum is designed, administered, and taught by the Annenberg School for Communication.

Majors may complete an optional concentration. Effective Fall 2020, Communication concentrations are as follows: Advocacy & Activism; Audiences & Persuasion; Culture & Society; Data & Network Science; and Politics & Policy. Alternatively, students may also choose to enroll in the Communication and Public Service (ComPS) program. Students interested in pursuing one of these concentrations or ComPS should make an appointment to meet with a member of the Communication Undergraduate Advising Team (<https://www.asc.upenn.edu/undergraduate-program/online-advising-appointments/>).

See separate details on requirements for a Communication major concentration (<https://www.asc.upenn.edu/undergraduate-program/communication-major-requirements/concentrations/>) or the Communication and Public Service program (<https://www.asc.upenn.edu/undergraduate-program/communication-major-requirements/concentrations/communication-and-public-service-comps-program/>).

Communication students with a concentration complete the 14-credit major curriculum, including a total of 5 courses required to complete a concentration. Of the 5 courses required to complete a concentration, 3 courses are COMM courses, and 2 courses are non-COMM elective courses. A list of approved COMM Data and Network Science concentration courses can be found on the Annenberg School for Communication website (<https://www.asc.upenn.edu/undergraduate/courses/?term=All&faculty=All&concentration=28>). Non-COMM elective courses require pre-approval from a member of the Communication Undergraduate Advising Team (<https://www.asc.upenn.edu/undergraduate-program/online-advising-appointments/>). Students may only complete one concentration.

In addition to concentrations, the Communication curriculum also offers opportunities for thesis research (<https://www.asc.upenn.edu/undergraduate-program/academic-opportunities/communication-thesis/>), independent study (<https://www.asc.upenn.edu/undergraduate-program/academic-opportunities/independent-study/>), internships (<https://www.asc.upenn.edu/undergraduate-program/academic-opportunities/internship-opportunities-policies/>), study abroad (<https://www.asc.upenn.edu/undergraduate-program/academic-opportunities/study-abroad-transfer-credit/>), and public service (<https://www.asc.upenn.edu/undergraduate-program/academic-opportunities/annenberg-public-service/>) (through the Communication and Public Service Program).

## Data & Network Science

Courses in this concentration focus on the role and analysis of data, complex systems, and networks in digital communication. Through this concentration students will gain an understanding of the role of digital media and social networks in disseminating information and influencing the communications, attitudes, and behaviors of social groups. Students have the opportunity to learn computational social science techniques to support research in this area, including social network analysis and methods from data science (information visualization, social media collection, quantitative data, and textual analysis) using various tools and programming languages (Python and R). Sample courses include: Computational Text Analysis for Communication Research; Communication in the Networked Age; Understanding Social Networks; The Impact of the Internet, Social Media, and Information Technology on Democracy; and Social Networks and the Spread of Behavior.

The minimum total course units (<https://www.college.upenn.edu/credits-needed-major/>) for graduation in this major is 34. Double majors may entail more course units.

Students must meet the following minimum course and GPA requirements as a condition of application to the major. Students may submit the application for the major after enrollment in the third required course. Meeting these requirements is not a guarantee of admission to the major.

The deadline for declaring the major, declaring a concentration, changing a concentration, and/or removing a concentration is the last day to add a course in the students' final semester.

1. Completion of at least two of the following introductory core survey courses:

| Code      | Title                                  | Course Units |
|-----------|--|--------------|
| COMM 1230 | Critical Approaches to Popular Culture | 1            |
| COMM 1250 | Introduction to Communication Behavior | 1            |
| COMM 1300 | Media Industries and Society           | 1            |

2. Completion of a third Communication course.
3. Cumulative GPA of 2.0 or higher in all University of Pennsylvania courses.

**For more information:** <https://www.asc.upenn.edu/academics/undergraduate-program/>

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (<https://www.college.upenn.edu/curriculum/>) page.

| Code   | Title | Course Units |
|--|-------|--------------|
| <b>College General Education Requirements and Free Electives</b> |       |              |
| Foundational Approaches + Sectors <sup>1</sup> + Free Electives  |       | 20           |
| <b>Major Requirements</b>  |       |              |

|   |           |
|---|-----------|
| <b>Introductory Core Survey Courses</b>   |           |
| Select two of the following:  | 2         |
| COMM 1230 Critical Approaches to Popular Culture  |           |
| COMM 1250 Introduction to Communication Behavior  |           |
| COMM 1300 Media Industries and Society  |           |
| <b>Research Methods Course</b>  |           |
| Select one:   | 1         |
| COMM 2100 Quantitative Research Methods in Communication  |           |
| Or, Research Methods course from the approved list. <sup>2</sup>  |           |
| <b>Elective Courses</b>   |           |
| Select five COMM specific courses. <sup>3,4,5</sup>   | 5         |
| Select one elective course from a department outside of COMM. The course must be related to the Communication major. <sup>6</sup> | 1         |
| <b>Concentration - Data &amp; Network Science</b>   |           |
| Select three COMM specific courses from the approved concentration list. <sup>7,8</sup>   | 3         |
| Select two elective courses from a department(s) outside of COMM related to the concentration. <sup>9</sup>                       | 2         |
| <b>Total Course Units</b>   | <b>34</b> |

1

Students may count no more than one course toward both a Major and a Sector requirement. For exceptions, check the Policies Governing the Sector Requirement (<https://www.college.upenn.edu/sector-policy/>).

2

Visit the Annenberg School for Communication website (<https://www.asc.upenn.edu/undergraduate-program/communication-major-requirements/>) for a list of approved Research Method courses.

3

2 of the 5 COMM elective courses must be 3000 to 4999 level.

4

Study abroad and study away courses are normally assigned the numbers COMM 2985 or 2995. Students can complete up to 3 COMM 2985 or 2995 courses toward their COMM elective requirements.

5

Students with a 3.5 or higher cumulative GPA can elect to enroll in the yearlong 2 CU senior thesis course sequence, COMM 4797 and COMM 4997.

6

Only 1 of the 3 non-COMM elective courses may be at the introductory level. 1 of the 3 non-COMM elective courses must be related to the student's communication major, but is not required to be related to the student's concentration, and must be pre-approved by a member of the Communication Undergraduate Advising Team (<https://www.asc.upenn.edu/undergraduate-program/online-advising-appointments/>).

7

2 of the 3 COMM concentration courses must be 3000 to 4999 level.

8

With department permission, COMM 3091 or COMM 4997 may be counted as one of the Communication-specific course requirements.

9

Only 1 of the 3 non-COMM elective courses may be an introductory level. 2 of the 3 non-COMM elective courses must be related to the student's concentration and be pre-approved by a member of the Communication Undergraduate Advising Team (<https://www.asc.upenn.edu/undergraduate-program/online-advising-appointments/>).

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2022 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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