ynomials of the form $ax^2 + bx + c$ can be factored into the form $(x - r_1)(x - r_2)$, where $r_1$ and $r_2$ are the roots of the equation.

The roots can be found using the quadratic formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

This formula gives the two solutions for $x$.

For example, consider the equation $x^2 - 5x + 6 = 0$. To factor this, we set $a = 1$, $b = -5$, and $c = 6$. Plugging these values into the quadratic formula gives:

$$x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(1)(6)}}{2(1)}$$

$$x = \frac{5 \pm \sqrt{25 - 24}}{2}$$

$$x = \frac{5 \pm 1}{2}$$

So the roots are $x = 3$ and $x = 2$, and the factored form of the equation is $(x - 3)(x - 2)$.

In general, the roots of a quadratic equation can be found using the quadratic formula, and the equation can be factored into a product of binomials using these roots.
### Strategic Communication Sequence

Public relations, advertising, and integrated marketing communication.

**Tier 1: FIVE CORE COURSES**
- 4580 Strat Comm Theory & Pract - currently 2580 (3)
- 1610 Introduction to News Writing (prereq: WTG 2010) (4)
- 3050 Intro to Media Business and Ethics - currently 1500 previously 3505 Living in a Media World (3)
- 3550 Principles of Visual Communication (3)
- 5300 Mass Communication Law (prereqs: COMM 3505 or 1500, must be a declared senior/junior, recommend taking this your senior year) (4)

**Tier 2: THREE COURSES (One must be 4590 or 5580)**
- Pick 2 courses from this list:
  - 3580 Strategic Communication, Special Topics (3)
  - 3610 Internship: students must apply to this course at communication.utah.edu click on the "find an internship" icon. (1-6, must take for at least 1 credit to count for the major)
  - 3620 Student Practicum (1-6) by application only
  - 3630 Absolute Communication (3)
  - 3670 Principles of Advertising (3)
  - 3680 Advertising Media Analysis & Planning (3)
  - 3690 Making Brands Stick (3)
  - 4570 Visual Editing - Photoshop (4)
  - 5200 Persuasion & Political Communication (3)
  - 5590 Integrated Marketing Communication (3)
  - 5660 Media Ethics (prereq: COMM 3505 or 1500) (3)
  - 5950 Advanced Special Topics in Strategic Communication (3)

- Pick 1 (both courses can be taken in this tier to go towards the 3 courses needed in this section):
  - *4590 Writing for Strategic Communication (prereqs: COMM 1610, COMM 4580 or 2580) (4) CW
  - *5580 PR Cases & Campaigns (prereqs: COMM 1610, COMM 3505 or 1500, COMM 4580 or 2580) (4) CW

**Tier 3: COMPLETE ONE**
- Pick 1 course from this list:
  - 3710 Introduction to Quant Comm Research (prereq: QA or QF) (3) Q1
  - 5710 Quant Comm Research (prereq: COMM 3710 or equivalent) (4) Q1

**Tier 4: COMPLETE ONE**
- Pick 1 course from this list:
  - 1270 Analysis of Argument (3) QB
  - 2110 Introduction to Interpersonal Communication BF (3)
  - 3050 Theoretical Perspectives in Communication (3)
  - 3115 Communicating Science, Health, Environment (3)
  - 3140 Dangerous Liaisons in Relationships & Organizations (3)
  - 3170 Intro to Organizational Communication (3)
  - 3405 Rhetoric: Aristotle to #twitter (3)

**Tier 5: COMPLETE 4 COMM ELECTIVES**
Electives are to be taken in addition to the previously listed course requirements.
- Two COMM Electives can be any level.
- Two COMM Electives must be 5000-level.

### Journalism Sequence

Online, broadcast, and print journalism.

**Tier 1: FIVE CORE COURSES**
- 1610 Introduction to News Writing (prereq: WTG 2010) (4)
- 3050 Intro to Media Business and Ethics - currently 1500 previously 3505 Living in a Media World (3)
- 3550 Principles of Visual Communication (3)
- 3555 Digital Journalism (prereqs: COMM 1610) (3)
- 5300 Mass Communication Law (prereqs: COMM 3505 or 1500, must be a declared senior/junior, recommend taking this your senior year) (4)

**Tier 2: FOUR COURSES**
*Two from each Writing/Reporting and Visual Groups:

- *Writing/Reporting*
  - 3520 Radio Journalism (prereq: COMM 1610) (3) CW
  - 3630 Community Journalism (3)
  - 3655 Venceremos (3)
  - 3660 or 5775 Voices of Utah (prereq: COMM 1610) (4) CW
  - 4610 Magazine Writing (prereq: COMM 1610) (3) CW
  - 4650 Environmental Reporting (prereq: WTG 2010) (4) CW
  - 4670 Specialty Reporting (prereq: COMM 1610) (3) CW

- *Visual*
  - 2530 Photojournalism (prereq: COMM 1535) (4)
  - 3530 Advanced Photography (prereq: COMM 1535) (4)
  - 3560 Video Production I (4)
  - 3770 Cross Cultural Documentary (3) IR
  - 4520 TV Journalism (prereq: COMM 1610, COMM 3555 or COMM 3560) (4)
  - 4570 Visual Editing - Photoshop (4)
  - 5550 Digital Imaging (4)
  - 5555 Documentary Photography (prereq: COMM 1535 or equivalent) (4)

- 5770 Communication Design, Special Topics (3)

**Tier 3: COMPLETE ONE**
- 3610 Internship: students must apply to this course at communication.utah.edu click on the "find an internship" icon. (1-6, must take for at least 1 credit to count for the major)

**Tier 4: COMPLETE ONE**
- 3620 Student Practicum (1-6) by application only
- 3570 Newsbreak (prereq: COMM 3560 or instructor permission) (3)

**Tier 4: COMPLETE ONE**
- 5540 Media and Diversity (3) DV
- 5630 Mass Communication History (3)
- 5660 Media Ethics (prereq: COMM 3505 or 1500) (3)

**Tier 5: COMPLETE 3 COMM ELECTIVES**
Electives are to be taken in addition to the previously listed course requirements.
- Two COMM Electives can be any level.
- One COMM Elective must be a 5000-level.

### Science, Health, Environmental, and Risk Communication Sequence

Students can prepare for careers in public health or communication for health or environmental organizations.

**Tier 1: REQUIRED ONE COURSE**
- 3115 Communicating Science, Health, Environment (3)

**Tier 2: CHOOSE 5 COURSES**
- 4360 Consuming the Earth (3)
- 4650 Environmental Reporting (4) CW
- 5360 Environmental Communication (3)
- 5365 Communicating Climate Change (3)
- 5370 Environmental Communication, Special Topics (1-3)
- 5115 Health Communication (3)
- 5116 Health, Communication, and Culture (3)
- 517 Health Campaigns, and Media (3)
- 5140 Communication and Aging (3)
- 5815 Health Communication, Special Topic (3)

**Tier 3: CHOOSE 4 COMM Electives**
Electives are to be taken in addition to the previously listed course requirements.
- Four COMM Electives can be any level.

### Communication Studies Sequence

A general, interdisciplinary course of study in communication – interpersonal, organizational, rhetorical, cultural, and media studies.

**Tier 1: CHOOSE FIVE COURSES**
- 1020 Principles of Public Speaking (3)
- 3170 Intro to Organizational Communication (3)
- 3510 Intro to Web Design (3)
- 3580 Strategic Communication, Special Topics (3)
- 4170 Applied Organizational Communication (prereq COMM 3170) (4)
- 4570 Visual Editing - Photoshop (4)
- 5200 Persuasion and Political Communication (3)
- 5300 Mass Communication Law (4)
- 5490 Communication and Social Justice (3)
- 5520 Interactive Narrative (3)
- 5590 Integrated Marketing Communication (3)
- 5640 Communication Technology and Culture (3)
- 5660 Media Ethics (prereq: COMM 3505 or 1500) (3)
- 5950 Advanced Special Topics in Strategic Communication (3)

**Tier 3: CHOOSE 4 COMM Electives**

**Tier 4: COMPLETE ONE**
- 3710 Introduction to Quant Comm Research (prereq: QA or QF) (3) Q1
- 5710 Quant Comm Research (prereq: COMM 3710 or equivalent) (4) Q1

**Tier 4: COMPLETE ONE**
- 5540 Media and Diversity (3) DV
- 5630 Mass Communication History (3)
- 5660 Media Ethics (prereq: COMM 3505 or 1500) (3)

**Tier 5: COMPLETE 3 COMM ELECTIVES**
Electives are to be taken in addition to the previously listed course requirements.
- Two COMM Electives can be any level.
- One COMM Elective must be a 5000-level.

**Tier 3: CHOOSE THREE 5000-level COMM Courses**
Plan ahead; few 5000-level courses are offered in summer.

- Use the Career & Interest Guide to select courses that will provide the best foundation in your area of interest. Students interested in media careers are strongly recommended to take COMM 5300, Mass Comm Law.