

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

NAME: Tianyi Zhang
 SSN#: XXX-XX-9722
 SCHOOL: GRADUATE SCHOOL OF BUSINESS

DEGREE(S) AWARDED: DATE AWARDED:
 Master of Philosophy May 19, 2021 PROGRAM: GRADUATE BUSINESS
 Doctor of Philosophy October 16, 2024 PROGRAM: PHD BUSINESS: DECISION/RISK/OPERATIONS

PROGRAM TITLE: BUSINESS

| SUBJECT | COURSE | TITLE | POINTS | GRADE | SUBJECT | COURSE | TITLE | POINTS | GRADE |
|--|--------|-------------------------------------|--------|-------|-------------|--------|----------------------------------|--------|-------|
| | NUMBER | | | | | NUMBER | | | |
| Fall 2018 | | | | | Summer 2020 | | | | |
| COMS | W | 4252 INTRO-COMPUTATIONAL LEARN THRY | 3.00 | A | BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| DROM | B | 9137 DRO TOPICS SEMINAR | 1.50 | H | | | | | |
| IEOR | E | 6613 OPTIMIZATION I | 4.50 | A- | Fall 2020 | | | | |
| STAT | GR | 6301 PROBABILITY THEORY I | 4.00 | A | BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| Spring 2019 | | | | | Spring 2021 | | | | |
| BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R | BUEC | B | 9209 (PHD) ECONOMIC THEORY III | 1.50 | H |
| DROM | B | 9118 (PHD) FOUNDATIONS OF OPTIMIZAT | 3.00 | H+ | BUEC | B | 9211 (PHD) ECONOMIC THEORY IV | 1.50 | H |
| DROM | B | 9119 (PHD) FOUNDATIONS OF STOCHASTI | 3.00 | H | BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| IEOR | E | 6712 STOCHASTIC MODELING II | 4.50 | A | EEOR | E | 6616 CONVEX OPTIMIZATION | 3.00 | B+ |
| Summer 2019 | | | | | Summer 2021 | | | | |
| BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R | BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| Fall 2019 | | | | | Fall 2021 | | | | |
| BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R | BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| IEOR | E | 6617 MCHN LRNING&HGH-DMNTNL DA | 3.00 | A+ | Spring 2022 | | | | |
| NEUR | M | 7201 NEUROLOGY CLERKSHIP | 0.00 | | BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| STAT | GR | 6203 MATH STAT III | 4.00 | A | DROM | B | 9151 DROM PRESEMINAR DISCUSSIO | 1.00 | H |
| STAT | GR | 8201 TOPICS IN THEORETICAL STA | 3.00 | A | Summer 2022 | | | | |
| Spring 2020 | | | | | BUSI | B | 9899 PHD INTERNSHIP | 1.50 | R |
| Due to the COVID-19 pandemic, Mandatory Pass/Fail grading was in effect for all regular, full-term courses for the spring 2020 semester. | | | | | Fall 2022 | | | | |
| BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R | APMA | E | 4990 MATHEMATICS OF DATA SCIENCE | 3.00 | A |
| DROM | B | 9120 (PHD) DYNAMIC PROGRAMMING | 3.00 | P | BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| DROM | B | 9137 (DRO) TOPICS SEMINAR | 1.50 | P | CSOR | W | 4231 ANALYSIS OF ALGORITHMS I | 3.00 | A |
| | | | | | ELEN | E | 4720 ML FOR SIG, INF | 3.00 | A |

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 MARCH 02, 2025.



SEAL OF COLUMBIA UNIVERSITY
 IN THE CITY OF NEW YORK

Barry S. Kane

Barry S. Kane
 Associate Vice President and University Registrar

SCHOOL: GRADUATE SCHOOL OF BUSINESS

NAME: Tianyi Zhang
SSN#: XXX-XX-9722

| SUBJECT | COURSE | TITLE | POINTS | GRADE |
|---------|--------|-------|--------|-------|
| NUMBER | | | | |

Spring 2023

| | | | | |
|------|----|-------------------------------------|------|----|
| BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| DROM | B | 8138 INTRO TO DATABASES FOR BU | 1.50 | H- |
| IEOR | E | 8100 HIGH-DIMENSIONAL PROB W/APPLIC | 3.00 | A |
| STAT | GR | 8201 THEORETICAL STATISTICS | 3.00 | A |
| STAT | GR | 8201 TOPICS IN THEORETICAL STAT | 3.00 | A- |

Summer 2023

| | | | | |
|------|----|-----------------------------|------|---|
| BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
| STAT | GR | 8201 THEORETICAL STATISTICS | 3.00 | P |

Fall 2023

| | | | | |
|------|---|---------------------|------|---|
| BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
|------|---|---------------------|------|---|

Spring 2024

| | | | | |
|------|---|---------------------|------|---|
| BUSI | B | 9800 (PHD) RESEARCH | 0.00 | R |
|------|---|---------------------|------|---|



SEAL OF COLUMBIA UNIVERSITY
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FINAL



Columbia College, Engineering and Applied Science, General Studies, Graduate School of Arts and Sciences, International and Public Affairs, Library Service, Human Nutrition, Nursing, Occupational Therapy, Physical Therapy, Professional Studies, Special Studies Program, Summer Session

A, B, C, D, F (excellent, good, fair, poor, failing). NOTE: Plus and minus signs and the grades of **P** (pass) and **HP** (high pass) are used in some schools. The grade of **D** is not used in Graduate Nursing, Occupational Therapy, and Physical Therapy.

American Language Program, Center for Psychoanalytic Training and Research, Journalism

P (pass), **F** (failing). Grades of **A, B, C, D, P** (pass), **F** (failing) — used for some offerings from the American Language Program Spring 2009 and thereafter.

Architecture

HP (high pass), **P** (pass), **LP** (low pass), **F** (failing), and **A, B, C, D, F** — used June 1991 and thereafter **P** (pass), **F** (failing) — used prior to June 1991.

Arts

P (pass), **LP** (low pass), **F** (fail). **H** (honors) used prior to June 2015.

Business

H (honors), **HP** (high pass), **P1** (pass), **LP** (low pass), **P** (unweighted pass), **F** (failing); plus (+) and minus (-) used for **H, HP** and **P1** grades Summer 2010 and thereafter.

College of Physicians and Surgeons

H (honors), **HP** (high pass), **P** (pass), **F** (failing).

College of Dental Medicine

H (honors), **P** (pass), **F** (failing).

Law

A through **C** [plus (+) and minus (-) with **A** and **B** only], **CR** (credit - equivalent to passing). **F** (failing) is used beginning with the class which entered Fall 1994. Some offerings are graded by **HP** (high pass), **P** (pass), **LP** (low pass), **F** (failing). **W** (withdrawn) signifies that the student was permitted to drop a course, for which he or she had been officially registered, after the close of the Law School's official Change of Program (add/drop) period. It carries no connotation of quality of student performance, nor is it considered in the calculation of academic honors.

E (excellent), **VG** (very good), **G** (good), **P** (pass), **U** (unsatisfactory), **CR** (credit) used from 1970 through the class which entered in Fall 1993.

Any student in the Law School's Juris Doctor program may, at any time, request that he or she be graded on the basis of Credit-Fail. In such event, the student's performance in every offering is graded in accordance with the standards outlined in the school's bulletin, but recorded on the transcript as Credit-Fail. A student electing the Credit-Fail option may revoke it at any time prior to graduation and receive or request a copy of his or her transcript with grades recorded in accordance with the policy outlined in the school bulletin. In all cases, the transcript received or requested by the student shall show, on a cumulative basis, all of the grades of the student presented in single format – i.e., all grades shall be in accordance with those set forth in the school bulletin, or all grades shall be stated as Credit or Fail.

Public Health

A, B, C, D, F - used Summer 1985 and thereafter. **H** (honors), **P** (pass), **F** (failing) — used prior to Summer 1985.

Social Work

E (excellent), **VG** (very good), **G** (good), **MP** (minimum pass), **F** (failing).

A though **C** is used beginning with the class which entered Fall 1997. Plus signs used with **B** and **C** only, while minus signs are used with all letter grades. The grade of **P** (pass) is given only for select classes.

OTHER GRADES USED IN THE UNIVERSITY

AB = Excused absence from final examination.

AR = Administrative Referral awarded temporarily if a final grade cannot be determined without additional information.

AU = Audit (auditing division only).

CP = Credit Pending. Assigned in graduate courses which regularly involve research projects extending beyond the end of the term. Until such time as a passing or failing grade is assigned, satisfactory progress is implied.

F* = Course dropped unofficially.

IN = Work Incomplete.

MU = Make-Up. Student has the privilege of taking a second final examination.

R = For the Business School: Indicates satisfactory completion of courses taken as part of an exchange program and earns academic credit.

R = For Columbia College: The grade given for course taken for no academic credit, or notation given for internship.

R = For the Graduate School of Arts and Sciences: By prior agreement, only a portion of total course work completed. Program determines academic credit.

R = For the School of International and Public Affairs: The grade given for a course taken for no academic credit.

UW = Unofficial Withdrawal.

UW = For the College of Physicians and Surgeons: Indicates significant attempted coursework which the student does not have the opportunity to complete as listed due to required repetition or withdrawal.

W = Withdrew from course.

YC = Year Course. Assigned at the end of the first term of a year course. A single grade for the entire course is given upon completion of the second term. Until such time as a passing or failing grade is assigned, satisfactory progress is implied.

OTHER INFORMATION

NOTE: All students who cross-register into other schools of the University are graded in the **A, B, C, D, F** grading system regardless of the grading system of their own school, except in the schools of Arts (prior to Spring 1993) and in Journalism (prior to Autumn 1992), in which the grades of **P** (pass) and **F** (failing) were assigned. Notations at the end of a term provide documentation of the type of separation from the University.

% of **A** Effective fall 1996: Transcripts of Columbia College students show the percentage of grades in the **A (A+, A, A-)** range in all classes with at least 12 grades, the mark of **R** excluded. Calculations are taken at two points in time, three weeks after the last final examination of the term and three weeks after the last final of the next term. Once taken, the percentage is final even if grades change or if grades are submitted after the calculation. For additional information about the grading policy of the Faculty of Columbia College, consult the College Bulletin.

KEY TO COURSE LISTINGS

A course listing consists of an area, a capital letter(s) (denotes school bulletin) and the four digit course number (see below).

The **capital letter** indicates the University school, division, or affiliate offering the course:

| | |
|-----------|--|
| A | Graduate School of Architecture, Planning, and Preservation |
| B | School of Business |
| BC | Barnard College |
| C | Columbia College |
| D | College of Dental Medicine |
| E | School of Engineering and Applied Science |
| F | School of General Studies |
| G | Graduate School of Arts and Sciences |
| H | Reid Hall (Paris) |
| J | Graduate School of Journalism |
| K | School of Library Services/Continuing Education (effective Fall 2002) |
| L | School of Law |
| M | College of Physicians and Surgeons, Institute of Human Nutrition, Program in Occupational Therapy, Program in Physical Therapy, Psychoanalytical Training and Research |
| N | School of Nursing |

| | |
|--------------|--|
| O | Other Universities or Affiliates/Auditing |
| P | School of Public Health |
| Q | Computer Technology/Applications |
| R | School of the Arts |
| S | Summer Session |
| T | School of Social Work |
| TA-TZ | Teachers College |
| U | School of International and Public Affairs |
| V | Interschool Course |
| W | Interfaculty Course |
| Y | Teachers College |
| Z | American Language Program |

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The **first digit** of the course number indicates the level of the course, as follows:

| | |
|----------|--|
| 0 | Course that cannot be credited toward any degree |
| 1 | Undergraduate course |
| 3 | Undergraduate course, advanced |
| 4 | Graduate course open to qualified undergraduates |
| 5 | Graduate course open to qualified undergraduates |
| 6 | Graduate course |
| 7 | Graduate course |
| 8 | Graduate course, advanced |
| 9 | Graduate research course or seminar |

Note: Level Designations Prior to 1961:

1-99 Undergraduate courses
100-299 Lower division graduate courses
300-999 Upper division graduate courses

The term designations are as follows:

X=Autumn Term, **Y**=Spring Term, **S**=Summer Term
Notations at the end of a term provide documentation of the type of separation from the University.