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# COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

NAME: Noah Jacob Zweben SSN#: XXX-XX-

SCHOOL: FU FOUNDATN SCHL OF ENGINEERING & APPLIED SCIENCE: UGRAD

DEGREE (S) AWARDED:

DATE AWARDED:

May 17, 2017 Bachelor of Science

MAJOR: COMPUTER SCIENCE HONORS: SUMMA CUM LAUDE VALEDICTORIAN

SUBJECT COURSE TITLE NUMBER	POINTS GRADE		SUBJECT COURSE TITLE NUMBER			TITLE	POINTS GRADE			
Fall 2013							Spring 2015			
CHEM C 1403 GENERAL CHEMISTRY I-LECTURES CHEM C 1405 GENERAL CHEMISTRY I - REC ENGL C 1010 UNIVERSITY WRITING MATH V 1102 CALCULUS II MECE E 1001 MECH ENGI:MICROMACH/JUMBO JET PHYS C 1401 INTRO TO MECHANICS & THERMO	3.00 3.00	A+ A+ A+ A+ GPA	4.266	APMA COCI DNCE ECON ECON ENME MECE	C BC W W E	1102 2252 1105 1155 3105	INTRO TO APPLIED MATHEMATICS CONTEMP WESTRN CIVILIZATION II AFRICAN DANCE I PRINCIPLES OF ECONOMICS PRINCIPLES OF ECONOMICS-DISC MECHANICS I COMPUTER GRAPHICS & DESIGN	3.00 4.00 1.00 4.00 0.00 4.00 3.00	A+ A A+	
HONORS: DEAN'S LIST									GPA	4.312
				HONORS						
Spring 2014  ELEN E 1201 INTRO-ELECTRICAL ENGINEERING ENGI E 1006 INTRO TO COMP FOR ENG/APP SCI ENGI E 1102 THE ART OF ENGINEERING MATH V 1201 CALCULUS III PHYS C 1402 INTRO TO ELEC/MAGNETSM & OPTO	4.00	A+ A+ A A+ A GPA	4.190	COMS COMS COMS COMS COMS COMS COMS	W W W	1004 3134 3203 3827	Fall 2015  INTRO-COMPUT SCI/PROGRAM-JAVA DATA STRUCTURES IN JAVA INTRO-COMBINATORICS/GRAPH THRY FUNDAMENTALS OF COMPUTER SYSTS MASTERPIECES OF WESTERN MUSIC	3.00	A+ A+ A+ A+	9)
HONORS: DEAN'S LIST									GPA	4.330
HONORS: DEAN'S LIST										
Fall 2014  COCI C 1101 CONTEMP WESTERN CIVILIZATION	I 4.00	A					Spring 2016			
ELEN E 3081 CIRCUIT ANALYSIS LABORATORY	1.00			COMS	E	0004	APPLICATIONS-TRACK	0.00		
ELEN E 3201 CIRCUIT ANALYSIS	3.50	A+		COMS	W	3157	ADVANCED PROGRAMMING	4.00	A+	
MATH V 1202 CALCULUS IV	3.00	A+		COMS	W		COMPUTER SCIENCE THEORY	3.00	A	
PHED C 1001 PHYSICAL EDUCATION ACTIVITIES		P		COMS			COMPUTER GRAPHICS		A+	
PHYS C 1403 INTRO-CLASSCL & QUANTUM WAVES		A-		DNCE			AFRICAN DANCE II	0.00	A	
PHYS C 1493 INTRO TO EXPERIMENTAL PHYS-LA	B 3.00	A	4.084	POLS   SIEO			JUSTICE	3.00 4.00	P	
		GPA	4.084	SIEO	W	3600	INTRO PROBABILITY/STATISTICS	4.00		4.070
HONORS: DEAN'S LIST									OIII	1.070
				ı						
							Fall 2016			
				COMC	T-7	2000	UNDERCOAD DROJECTS IN COMP. SST	2 00	7	
				COMS	W		UNDERGRAD PROJECTS IN COMP SCI COMPUTER VISION	3.00		
				COMS	W		COMPUTER VISION COMPUTATNL ASPECTS OF ROBOTICS		A+	
				COMS	E		UBIQUITIOUS GENOMICS	3.00	A-	
				LING			INTRODUCTION TO LINGUISTICS		A	

This official transcript was produced on NOVEMBER 16, 2017.



SEAL OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

Barry S. Kane Associate Vice President and University Registrar



OFFICE OF THE UNIVERSITY REGISTRAR STUDENT SERVICE CENTER 1140 AMSTERDAM AVENUE 205 KENT HALL, MAIL CODE 9202 NEW YORK, NEW YORK 10027 (212) 854-4400



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).

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.

% of A

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.

 ${f R}$  = 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

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 NOTE of separation from the University.

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

College of Physicians and Surgeons, Institute

of Human Nutrition, Program in Occupational Therapy, Program in Physical Therapy, Psychoanalytical Training and Research

School of Nursing

Α	Graduate School of Architecture, Planning, and	0	Other Universities or Affiliates/Auditing
	Preservation	P	School of Public Health
В	School of Business	Q	Computer Technology/Applications
BC	Barnard College	R	School of the Arts
С	Columbia College	S	Summer Session
D	College of Dental Medicine	T	School of Social Work
E	School of Engineering and Applied Science	TA-TZ	Teachers College
F	School of General Studies	U	School of International and Public Affairs
G	Graduate School of Arts and Sciences	V	Interschool Course
Н	Reid Hall (Paris)	W	Interfaculty Course
J	Graduate School of Journalism	Υ	Teachers College
K	School of Library Services/Continuing	Z	American Language Program
	Education (effective Fall 2002)		
	Oalas al afficient		

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OF THE STUDENT.

The first digit of the course number indicates the level of the

Course that cannot be credited toward any degree

Undergraduate course

Undergraduate course, advanced

Graduate course open to qualified undergraduates Graduate course open to qualified undergraduates

Graduate course

Graduate course Graduate course, advanced

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.

THE ABOVE INFORMATION REFLECTS GRADING SYSTEMS IN USE SINCE SPRING 1982. THE CUMULATIVE INDEX, IF SHOWN, DOES NOT REFLECT COURSES TAKEN BEFORE SPRING OF 1982. ALL TRANSCRIPTS ISSUED FROM THIS OFFICE ARE OFFICIAL DOCUMENTS, TRANSCRIPTS ARE PRINTED ON TAMPER-PROOF PAPER, ELIMINATING THE NEED FOR SIGNATURES AND STAMPS ON THE BACK OF ENVELOPES, FOR CERTIFICATION PURPOSES, A REPRODUCED COPY OF THIS RECORD SHALL NOT BE VALID. THE HEAT-SENSITIVE STRIP, LOCATED ON THE BOTTOM EDGE OF THE FACE OF THE TRANSCRIPT, WILL CHANGE FROM BLUE TO CLEAR WHEN HEAT OR PRESSURE IS APPLIED. A BLUE SIGNATURE ALSO ACCOMPANIES THE UNIVERSITY SEAL ON THE FACE OF THE TRANSCRIPT.