

CATALOG 2020-2021

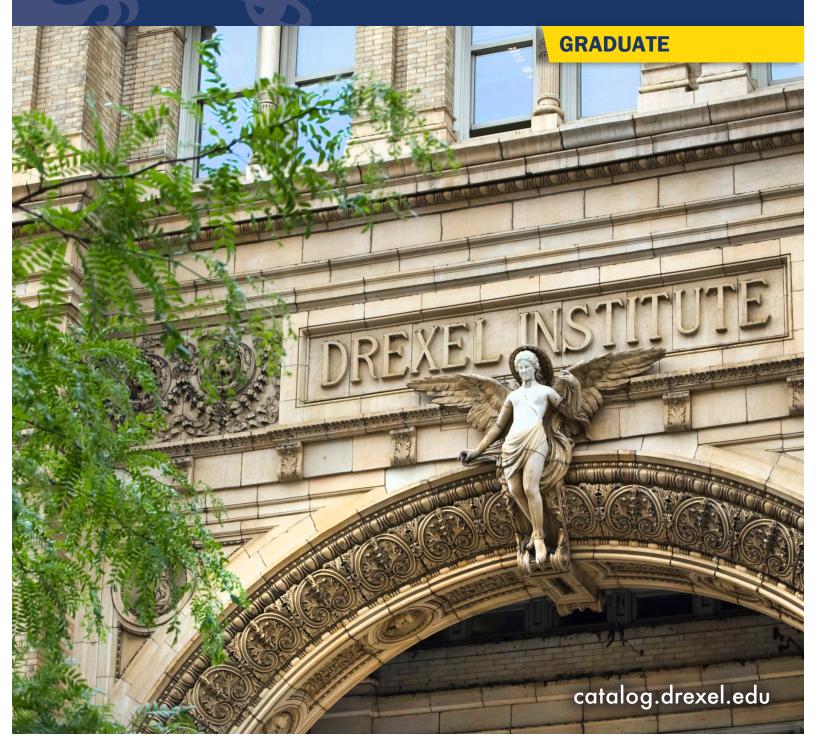


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Close School of Entrepreneurship

About the School

In today's extremely competitive global workforce, there is an increased value and demand for initiative, independence, innovation, and the intellectual dexterity to rethink the old ways of doing things and invent new ones. The Charles D. Close School of Entrepreneurship has pioneered an approach to entrepreneurship education that addresses this need by teaching students to be entrepreneurial thinkers and doers, preparing them to meet the world market on solid footing and to create their own opportunities.

The Close School defines entrepreneurship as more than starting a company or sparking innovation within established organizations. At the Close School, entrepreneurship is a habit of mind and an attitude; a skill set applicable to pursuing innovation in both personal and career contexts. We assist students in cultivating an approach to life built around innovative thinking, calculated daring, and proactive behavior.

Within our unique curriculum, students learn skills such as resilience, collaboration, negotiation, and communication. The Close School's academic and co-curricular programs prepare students for the everevolving 21st-century workforce, which will include experiences in new venture creation, self-employment, corporate innovation and the development of impactful social enterprises.

Majors

- Entrepreneurship and Innovation (MS) (p. 2)
- Transdisciplinary Science, Computing, Engineering and Design (MS)

Minors

• Entrepreneurship and Innovation (p. 4)

Certificates

• NEW: Corporate Entrepreneurship

• NEW: Foundations of Entrepreneurship I

• NEW: Foundations of Entrepreneurship II

• NEW: New Venture Creation

• NEW: Social Entrepreneurship

Entrepreneurship and Innovation

Major: Entrepreneurship and Innovation Degree Awarded: Master of Science (MS)

Calendar Type: Quarter Total Credit Hours: 45.0 Co-op Option: None

Classification of Instructional Programs (CIP) code: 52.0701 Standard Occupational Classification (SOC) code: 11-1011; 11-1021;

11-9199

About the Program

The Charles D. Close School of Entrepreneurship is founded on the principle that entrepreneurship encompasses more than starting a new venture. Entrepreneurship is a habit of mind and an attitude; a skill set applicable to pursuing innovation in both personal and career contexts; as well as an approach to life built around innovative thinking, calculated daring, and proactive behavior.

The MS in Entrepreneurship and Innovation is designed for recent graduates or working professionals who wish to increase their knowledge of and experiences in innovation and entrepreneurship. The MS focuses on developing the entrepreneurial mindset and the skills associated with new-venture creation and corporate innovation.

For additional information about the MS in Entrepreneurship and Innovation, please contact Rita Berson (rk25@drexel.edu).

Degree Requirements

Legal Issues in New Ventures

Rea	uired	Courses

BI AW 646

		20gai 100a00 iii 110ii 10iiiai 00	0.0
EI	NTP 501	Entrepreneurship Practice & Mindset	3.0
EI	NTP 515	Pitch It!	3.0
EI	NTP 540	Methods of Entrepreneurship	3.0
EI	NTP 611	Learning from Failure	3.0
EI	NTP 621	Innovation & Ideation	3.0
EI	NTP 631	Building Internal & External Relationships	3.0
EI	NTP 660	Early Stage Venture Funding	3.0
EI	NTP 671	Life After Launch	3.0
M	GMT 670	Business Ethics	3.0
C	noose Your Entre	preneurial Path	6.0
S	ocial Entrepreneu	ırship	
	ENTP 535	Social Entrepreneurship	
	ENTP 601	Social and Sustainable Innovation	
C	orporate Entrepre	eneurship	
	ENTP 641	Innovation in Established Companies	
	ENTP 681	The Startup Way: How to Drive Innovation in Entrepreneurial Companies	
Ν	ew Venture Crea	tion	
	ENTP 651	Leading New Ventures	
	ENTP 690	The Lean Launch	
		e following graduate electives, OR one from this list and two oon advisor approval):	
El	ectives		9.0

ENTP 545 International Entrepreneurship

ENTP 555 Dynamics of the Family Firm Franchising ENTP 565 ENTP T580 Special Topics in Entrepreneurship ENTP T680 Special Topics in Entrepreneurship PLCY 507 Nonprofit Organizations

Any alternate path course

Total Credits

45.0

Sample Plan of Study

irst	Year

Fall	Credits Winter	Credits Spring	Credits Summer C	edits
ENTP 501	3.0 ENTP 621	3.0 ENTP 671	3.0 Entrepreneurship Elective	3.0
ENTP 631	3.0 ENTP 611	3.0 Entrepreneursh Elective	ip 3.0 Entrepreneurship Path Course	3.0
	6	6	6	6

Second Year			
Fall	Credits Winter	Credits Spring	Credits
ENTP 515	3.0 ENTP 660	3.0 BLAW 646	3.0
Entrepreneursh	ip 3.0 MGMT 670	3.0 ENTP 540	3.0
Path			
Course			

	Entrepreneurship Elective	3.0	
6	6	9	

Total Credits 45

Entrepreneurship and Innovation Faculty

Nick Bayer, BS (Cornell University). Adjunct Instructor.

Roy Carriker, PhD (University of Connecticut). Teaching Professor.

Donna De Carolis, PhD (Temple University) Dean Silverman Family Professor Entrepreneurial Leadership.

Michael Kurzeja, MBA (Grantham University). Adjunct Instructor.

Roger Lee, MS (Drexel University). Adjunct Teaching Professor.

Barrie Litzky, PhD (Drexel University). Associate Professor.

Larissa Milne, MBA (Drexel University). Adjunct Teaching Professor.

Dean Musser, BS (Drexel University). Adjunct Instructor.

Ozlem Ogutveren-Gonul, PhD (Gazi University, Ankara, Turkey). Assistant Teaching Professor.

Scott Quitel, JD, MBA (*Temple University*) Director of Social Enterpreneurship. Assistant Teaching Professor.

Charles Sacco, MBA (Drexel University) Assistant Dean of Strategic Initiatives; Director of the Baiada Institute for Entrepreneurship.

Damian Salas, MBA (Drexel University) Assistant Dean of Entrepreneurship Programs. Assistant Teaching Professor.

Zahed Subhan, PhD, JD/LLB (Law) (University of Leeds (UK); London University). Teaching Professor.

Transdisciplinary Science, Computing, and Engineering Design

Major: Transdisciplinary Science, Computing, and Engineering Design

Degree Awarded: Master of Science (MS)

Calendar Type: Quarter Total Credit Hours: 45.0

Co-op Option: Available for full-time, on-campus master's-level students Classification of Instructional Programs (CIP) code: 15.1502 Standard Occupational Classification (SOC) code: 17-2199

About the Program

New industries and product categories, such as wearable devices, consumer robotics, and the "Internet of Things," have emerged from a combination of new technologies as well as a human-centered approach to interaction with technology. More and more, companies pursuing these areas seek hybrid employees combining both technical and creative skills, capable of integrating and implementing advances across multiple disciplines to further innovation. The Transdisciplinary Science, Computing, and Engineering Design (TranSCEND) MS program aims to prepare students for these opportunities by combining graduate-level classes in science, engineering, and computing with hands-on, collaborative project-based courses focusing on the development of

physical devices and artifacts. The curriculum includes a required 6-month graduate co-op experience to gain real-world experience with collaborative project development. Program participants will be able to engage with boundary-crossing research projects, such as advanced functional fabrics, performing arts technology, humanoid robotics, and learning technologies at Drexel's ExCITe (Expressive & Creative Interaction Technologies) Center.

Transdisciplinary work refers to a deeply collaborative process in which questions are approached through an integrated conceptual framework combining methods and approaches from different disciplines to illuminate problems and solutions in new ways. The TranSCEND program seeks to develop transdisciplinarity within individuals, equipping students with both the technical depth and the broader contextual experience to succeed in today's technology-driven industries.

The TranSCEND MS combines a strong foundation of technical knowledge with the creative, expressive, and collaborative exploration of new technology design. This intensive, full-time program emphasizes learning through world-ready projects and collaborative experiences including direct industry engagement through a required graduate co-op. Core TranSCEND MS activities (courses, research opportunities, academic advising, and industry engagement) are structured around a transdisciplinary philosophy to enable a broader range of student-faculty and student-student collaborations than traditional graduate technical programs. These principles and practices are not only integrated through courses, but also through the interactions between students pursuing a diversity of projects.

Additional Information

For more information about the program, please visit the TranSCEND MS (https://drexel.edu/info/transcend/) webpage on the ExCITe Center website.

Contact

Jillian Reilly Student Programs Coordinator, ExCITe Center jmreilly@drexel.edu 215-895-6635

Admission Requirements

The TranSCEND MS program is an advanced and highly selective program of study. Successful applicants will have a baccalaureate degree in an engineering, computing, and/or scientific or closely related field, or substantial demonstrated facility in one of those fields (e.g., an undergraduate minor with significant project work). Candidates should have a minimum 3.0 undergraduate GPA.

Candidates may, at their option, submit a portfolio of prior work to be considered by program faculty and staff during the admissions process.

Degree Requirements

Required Courses

•		
SCED 500	Graduate Proseminar	3.0
SCED 501	Collaborative Laboratory I	3.0
SCED 502	Collaborative Laboratory II	3.0
SCED 503	Collaborative Laboratory III	3.0
ENTP 690	The Lean Launch	3.0
Thesis		
SCED 600	Masters Thesis Preparation	3.0
SCED 690	Masters Thesis Research	6.0

Core Electives		9.0
CS 570	Programming Foundations	
DIGM 501	New Media: History, Theory and Methods	
DSRE 625	Technologies of Making	
EDLT 536	Learning Sciences and Instructional Design	
ENTP 501	Entrepreneurship Practice & Mindset	
FASH 504	Materials Exploration	
INFO 540	Perspectives on Information Systems	
PSY 512	Cognitive Psychology	
SCED 521	Entertainment Technologies	
SCTS 501	Introduction to Science, Technology and Society	
Disciplinary Elec	tives	12.0
ANIM 588	Spatial Data Capture	
CS 510	Introduction to Artificial Intelligence	
CS 511	Robot Laboratory	
CS 520	Computer Science Foundations	
CS 530	Developing User Interfaces	
CS 537	Interactive Computer Graphics	
CS 571	Advanced Programming Techniques	
DIGM 508	Digital Cultural Heritage	
DSRE 620	Design Problem Solving	
DSRE 630	Data Visualization for Design Professionals	
ECES 558	Digital Signal Processing for Sound & Hearing	
ECES 559	Processing of the Human Voice	
ECES 660	Machine Listening and Music IR	
ENTP 535	Social Entrepreneurship	
EDLT 533	Designing Virtual Communities	
EDLT 538	New Media Literacies	
EDLT 811	Designing and Developing Multimedia Applications For Learning	
GMAP 547	Serious Games	
GMAP 548	Experimental Games	
INFO 608	Human-Computer Interaction	
INFO 690	Understanding Users: User Experience Research Methods	
INFO 691	Prototyping the User Experience	
PSY 532	Introduction to Cognitive Modeling	
PSY 611	Computer-Based Research Methods for Psychological Research	
SCED 510	Industry Collaborative	
SCTS 504	Science, Technology & Society Theories	
SCTS 571	Science and Technology Policy	
SCTS 584	Historiography of Science	
Total Credits		45.0

Sample Plan of Study

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SCED 500	3.0 SCED 502	3.0 SCED 503	3.0 SCED 600	3.0
SCED 501	3.0 ENTP 690	3.0 Electives	6.0 Electives	6.0
Elective	3.0 Elective	3.0		
	9	9	9	9
Second Year				
Fall	Credits			
SCED 690	6.0			
Elective	3.0			
	9			

Total Credits 45

Transdisciplinary Science, Computing, and Engineering Design Faculty

Genevieve Dion, MFA (*University of the Arts*) *Director, Center for Functional Fabrics*. Associate Professor. Industrial designer, wearable artist, new materials technology research.

Kareem Edouard, PhD (Stanford University). Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Youngmoo Kim, PhD (MIT) Director, Expressive and Creative Interactive Technologies (ExCITe) Center. Professor. Audio and music signal processing, voice analysis and synthesis, music information retrieval, machine learning.

Frank J. Lee, PhD (Carnegie Mellon University). Professor. Human-computer interaction; cognitive engineering and science; intelligent software agents for games and education.

Brian Smith, PhD (Northwestern University) Senior Associate Dean of Academic Affairs. Professor. Design of computer-based learning environments, computer science education, human-computer interaction, creativity and innovation; design sciences; informal/everyday learning.

Graduate Minor in Entrepreneurship and Innovation

About the Graduate Minor

The Entrepreneurship and Innovation graduate minor is designed to enrich a graduate student's program via rigorous and applied coursework in the area of entrepreneurship. The skills of entrepreneurial thinking and doing are applicable to students in every master's degree program, as these competencies resonate with student careers both in established companies or new ventures. Students will learn how to communicate complex ideas, evaluate opportunities, learn from failure, and implement innovations.

Program Requirements

Total Credits		12.0
ENTP 690	The Lean Launch	3.0
ENTP 641	Innovation in Established Companies	3.0
or ENTP 621	Innovation & Ideation	
ENTP 611 Learning from Failure		3.0
ENTP 501	Entrepreneurship Practice & Mindset	3.0

Additional Information

For more information about the Entrepreneurship and Innovation graduate minor, please contact Rita Berson at rk25@drexel.edu.

Certificate in Corporate Entrepreneurship

Certificate Level: Graduate
Admission Requirements: Bachelor's degree
Certificate Type: Post-Baccalaureate
Number of Credits to Completion: 9.0
Instructional Delivery: Online; Face-to-Face
Calendar Type: Quarter

Expected Time to Completion: 1 year Financial Aid Eligibility: Not aid eligible

Classification of Instructional Program (CIP) Code: 52.0701 Standard Occupational Classification (SOC) Code: 11-1021

About the Program

Today's global workforce demands initiative, independence, and innovation. The Close School has pioneered an approach to education that addresses this need by teaching students and professionals to be entrepreneurial thinkers and doers, preparing them to meet the world market on solid footing and to create their own opportunities.

The Corporate Entrepreneurship certificate program focuses on the practice and application of entrepreneurial skills within corporations. The program introduces the student to the role of a corporate entrepreneur as change agent. Corporate entrepreneurs will learn to develop relationships with internal and external stakeholders, apply innovation strategies in corporate settings and initiate and lead organizational development and change.

Admission Requirements

Admission requires a four-year bachelor's degree from a regionally accredited institution in the United States or an equivalent international institution. Applicants who have not received a degree in the United States are required to take a TOEFL.

Program Requirements

Corporate Entrepreneurship

Total Credits		9.0
	Companies	
ENTP 681	The Startup Way: How to Drive Innovation in Entrepreneurial	3.0
ENTP 641	Innovation in Established Companies	3.0
ENTP 631	Building Internal & External Relationships	3.0

Sample Plan of Study

Fall	Credits Winter	Credits Spring	Credits
ENTP 631	3.0 ENTP 641	3.0 ENTP 681	3.0
	3	3	3

Total Credits 9

Certificate in Foundations of Entrepreneurship I

Certificate Level: Graduate

Admission Requirements: Bachelor's degree Certificate Type: Post-Baccalaureate Number of Credits to Completion: 9.0 Instructional Delivery: Online; Face-to-Face

Calendar Type: Quarter

Expected Time to Completion: 1 year Financial Aid Eligibility: Not aid eligible

Classification of Instructional Program (CIP) Code: 52.0701 Standard Occupational Classification (SOC) Code: 11-1021

About the Program

Today's global workforce demands initiative, independence, and innovation. The Close School has pioneered an approach to education that addresses this need by teaching students and professionals to be

entrepreneurial thinkers and doers, preparing them to meet the world market on solid footing and to create their own opportunities.

The Foundations of Entrepreneurship I certificate program focuses on building the entrepreneurial mindset and developing the individual as entrepreneur. The program introduces a range of foundational tools used by successful entrepreneurs in pursuit of opportunity, beginning with the individual as the cornerstone of enterprise, be it a proprietorship or growing a company.

Admission Requirements

Admission requires a four-year bachelor's degree from a regionally accredited institution in the United States or an equivalent international institution. Applicants who have not received a degree in the United States are required to take a TOEFL.

Program Requirements

Foundations of Entrepreneurship I

Total Credits	·	9.0
ENTP 671	Life After Launch	3.0
ENTP 515	Pitch It!	3.0
ENTP 501	Entrepreneurship Practice & Mindset	3.0

Sample Plan of Study

Foundations of Entrepreneurship I

Total Credits		9.0
ENTP 671	Life After Launch	3.0
ENTP 515	Pitch It!	3.0
ENTP 501	Entrepreneurship Practice & Mindset	3.0

Certificate in Foundations of Entrepreneurship II

Certificate Level: Graduate

Admission Requirements: Bachelor's degree Certificate Type: Post-Baccalaureate Number of Credits to Completion: 9.0 Instructional Delivery: Online; Face-to-Face

Calendar Type: Quarter

Expected Time to Completion: 1 year Financial Aid Eligibility: Not aid eligible

Classification of Instructional Program (CIP) Code: 52.0701 Standard Occupational Classification (SOC) Code: 11-1021

About the Program

Today's global workforce demands initiative, independence, and innovation. The Close School has pioneered an approach to education that addresses this need by teaching students and professionals to be entrepreneurial thinkers and doers, preparing them to meet the world market on solid footing and to create their own opportunities.

The Foundations of Entrepreneurship II certificate program focuses on the practice and application of entrepreneurial skills. The program introduces a range of foundational tools used by successful entrepreneurs in pursuit of opportunity, such as using failure as a tool for future success, personal branding, and practicing ideation and design thinking methodologies to generate novel and executable ideas.

Admission Requirements

Admission requires a four-year bachelor's degree from a regionally accredited institution in the United States or an equivalent international institution. Applicants who have not received a degree in the United States are required to take a TOEFL.

Program Requirements

Foundations of Entrepreneurship II

Total Credits		9.0
ENTP 621	Innovation & Ideation	3.0
ENTP 611	Learning from Failure	3.0
ENTP 540	Methods of Entrepreneurship	3.0

Sample Plan of Study

First Year

Fall	Credits Winter	Credits Spring	Credits
ENTP 611	3.0 ENTP 621	3.0 ENTP 540	3.0
	3	3	3

Total Credits 9

Certificate in New Venture Creation

Certificate Level: Graduate

Admission Requirements: Bachelor's degree Certificate Type: Post-Baccalaureate Number of Credits to Completion: 9.0 Instructional Delivery: Online; Face-to-Face

Calendar Type: Quarter

Expected Time to Completion: 1 year Financial Aid Eligibility: Not aid eligible

Classification of Instructional Program (CIP) Code: 52.0701 Standard Occupational Classification (SOC) Code: 11-1021

About the Program

Today's global workforce demands initiative, independence, and innovation. The Close School has pioneered an approach to education that addresses this need by teaching students and professionals to be entrepreneurial thinkers and doers, preparing them to meet the world market on solid footing and to create their own opportunities.

The New Venture Creation certificate program is designed for professionals who are interested in starting their own ventures, working for start-up companies, or preparing for self-employment. The program introduces concepts of new venture leadership and building a successful start-up team, assessing funding needs and opportunities, and using the Lean Launch methodology.

Program Requirements

New Venture Creation

Total Credits		9.0
ENTP 690	The Lean Launch	3.0
ENTP 660	Early Stage Venture Funding	3.0
ENTP 651	Leading New Ventures	3.0

Sample Plan of Study

First Year

Fall	Credits Winter	Credits Spring	Credits
ENTP 651	3.0 ENTP 660	3.0 ENTP 690	3.0
	3	3	3

Total Credits 9

Certificate in Social Entrepreneurship

Certificate Level: Graduate

Admission Requirements: Bachelor's degree Certificate Type: Post-Baccalaureate Number of Credits to Completion: 9.0 Instructional Delivery: Online; Face-to-Face

Calendar Type: Quarter

Expected Time to Completion: 1 year Financial Aid Eligibility: Not aid eligible

Classification of Instructional Program (CIP) Code: 52.0701 Standard Occupational Classification (SOC) Code: 11-1021

About the Program

Today's global workforce demands initiative, independence, and innovation. The Close School has pioneered an approach to education that addresses this need by teaching students and professionals to be entrepreneurial thinkers and doers, preparing them to meet the world market on solid footing and to create their own opportunities.

The Social Entrepreneurship certificate program is designed for professionals who are interested in tackling critical social problems within their communities or around the world through building sustainable business models. The program focuses on defining the scope of social of problems and developing unique business models and social-impact measurements to create positive social change.

Admission Requirements

Admission requires a four-year bachelor's degree from a regionally accredited institution in the United States or an equivalent international institution. Applicants who have not received a degree in the United States are required to take a TOEFL.

Program Requirements

Social Entrepreneurship

Total Credits		9.0
ENTP 601	Social and Sustainable Innovation	3.0
ENTP 545	International Entrepreneurship	3.0
ENTP 535	Social Entrepreneurship	3.0

Sample Plan of Study

Fi	rst	Yea	1

	3	3	3
ENTP 535	3.0 ENTP 545	3.0 ENTP 601	3.0
Fall	Credits Winter	Credits Spring	Credits
riist ieai			

Total Credits 9

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