Entrepreneurship (ENTR)

B.B.A. with Major in Entrepreneurship (https://catalog.und.edu/undergraduateacademicinformation/departmentalcoursesprograms/entrepreneurship/entre-bba/)

Minor in Entrepreneurship

Certificate in Entrepreneurship (https://catalog.und.edu/undergraduateacademicinformation/departmentalcoursesprograms/entrepreneurship/cert-entr/)

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Freshman Year		
Fall		**Credits**
MATH 103 or MATH 146 or MATH 165	College Algebra or Applied Calculus I or Calculus I	3
ENTR 101	Introduction to Entrepreneurship (meets social science)	3
ENGL 110	College Composition I	3
Essential Studies: Fine Arts		3
Free Elective		3
	Credits	**15**
Spring		
ENGL 130	Composition II: Writing for Public Audiences	3
Essential Studies: Oral Communication (e.g. Comm. 110)		3
Essential Studies: Humanities		3
Essential Studies: Lab Science		4
ENTR 290	Entrepreneurial Opportunities and Concept Development	3
	Credits	**16**
Sophomore Year		
Fall		
ACCT 200	Elements of Accounting I	3
ECON 201	Principles of Microeconomics	3
Essential Studies:Diversity of Human Experience		3
MGMT 300	Principles of Management	3
ISBA 217	Fundamentals of Computer Information Systems	3
	Credits	**15**
Spring		
ACCT 201	Elements of Accounting II	3
ECON 202	Principles of Macroeconomics	3
ECON 210	Introduction to Business and Economic Statistics	3
Essential Studies: Fine Arts or Humanities		3
MRKT 305	Marketing Foundations	3
	Credits	**15**
Junior Year		
Fall		
FIN 310	Principles of Financial Management	3
ENTR 316	Entrepreneur Law Operations	3
ENTR 386	Financials for Entrepreneurs	3
Essential Studies: Analyzing Worldviews		3
Free Elective		3
	Credits	**15**
Spring		
MGMT 301	Operations Management	3
MRKT 311	Professional Selling	3
Essential Studies:Advanced Communication		3
Free Elective		3
Free Elective		3
	Credits	**15**
Senior Year		
Fall		
ENTR 497	Entrepreneurship Practice	3
Entrepreneurship Elective		3
Free Elective		3
Free Elective		3
Free Elective		3
	Credits	**15**
Spring		
MGMT 475	Strategic Management (Capstone)	3
ENTR 450	Venture Implementation	3
Free Elective		3
Free Elective		3
Free Elective		2
	Credits	**14**
	Total Credits	**120**

Students must complete enough electives to bring total credit hours up to the 120. Special Emphasis courses can fulfill an essential studies requirement (example-History 104, US History, will count toward the Diversity of Human Experience as well as the Humanities area). Please Note: Every student must fulfill all University, Departmental, and Essential Studies requirements. (https://und.edu/academics/essential-studies/)

ENTR 101. Introduction to Entrepreneurship. 3 Credits.
ENTR 101 is an introductory course structured to provide a firm basis as to the critical role entrepreneurs and entrepreneurship plays in the global economy. Entrepreneurship will be analyzed, debated, assessed, and explored experientially throughout the semester from an interdisciplinary perspective. Entrepreneurship will be viewed as a manageable process and way of thinking, acting, and behaving applicable not only to business endeavors, but to everyday problems existing in the workplace and society. F,S.

ENTR 260. Digital Technology for Entrepreneurs. 3 Credits.
All new ventures utilize digital technology. Even the most basic enterprise is dependent upon digital technology to function efficiently and effectively. You will explore and learn some of the common digital technologies that assist with entrepreneurial thinking. We will also play with technologies that form the basis of new digital ideas, products and services. On demand.

ENTR 290. Entrepreneurial Opportunities and Concept Development. 3 Credits.
Every successful venture, big or small, started with a problem and an idea for a solution. Venture success is a measured combination of feasibility, viability, testing, and luck. Too many entrepreneurs, unfortunately, rely strictly on luck. This course will show you how to test your business idea through customer discovery and validation; business and revenue modeling; effectuation; and the ability to communicate all of your findings to stakeholders. Whether for-profit, not-for-profit, or an internal corporate project/venture, success or failure doesn't happen by accident. Learn the tools that give you the best chance to win. F,S.

ENTR 316. Entrepreneur Law & Operations. 3 Credits.
Starting your own venture? Do you know the legal hurdles you must leap? This is not a dry, legal lecture series. Learn entrepreneurship law hands-on! Experience relevant legal requirements as you form a real or simulated corporation/LLC, participate in mock owner disputes, draft contracts, hire employees, assume debt, sell equity, file for bankruptcy, franchise, and a host of other exciting activities! Who knew? Law doesn't have to be boring!. F,S.

ENTR 333. New Product Development. 3 Credits.
The recognition, discovery and creation of new product/service opportunities is a critical component of the entrepreneurial process. From the inception of the automobile to Facebook, finding the right opportunity can help create products and organizations that can have profound impacts on industries, customers and society at large. Therefore, the goal of the course is to create a product/service development lab, to help participants explore different techniques and perspectives on finding new products/services and bringing them to market. F.

ENTR 375. Small and Family Business. 3 Credits.
Small business is an economic driver and contributes to new jobs and economic growth development. Family-owned businesses often outperform non-family owned businesses. This course will cover venture planning and operations in this important context, small and family businesses. Prerequisite: ENTR 101. S.

ENTR 385. Entrepreneurial Opportunities and Concept Development. 3 Credits.
Every successful venture, big or small, started with a problem and an idea for a solution. Venture success is a measured combination of feasibility, viability, testing, and luck. Too many entrepreneurs, unfortunately, rely strictly on luck. This course will show you how to test your business idea through customer discovery and validation; business and revenue modeling; effectuation; and the ability to communicate all of your findings to stakeholders. Whether for-profit, not-for-profit, or an internal corporate project/venture, success or failure doesn't happen by accident. Learn the tools that give you the best chance to win. F,S.

ENTR 386. Financials for Entrepreneurs. 3 Credits.
This course will review key financing concepts to give entrepreneurs and aspiring entrepreneurs a guide to securing funding. Students will develop the skills necessary to complete the financial section of a business plan. Concepts that are taught include sources of capital, the economic ecosystem, core and adjacency strategies, lean startups and strategy pivots, customer value creation and switching costs, pricing models, operating costs, cash flow planning, revenue forecasts and financial projections, private and public company analysis, and franchise evaluation. At the end of the course students should be able to think critically about business and make critical strategic evaluations during the course of a business lifecycle. F,S.

ENTR 388. Entrepreneurship: The Money. 3 Credits.
You've figured out what you want to bring to the market, done all the analysis, written a bang-up proposal--now all you need is some funding. This is where you learn how to raise money for your venture. We explore internal/external capital generation (debt, equity, bootstrapping), the time value of money, cash flow management, venture valuation, and exit strategies. In a nutshell, you will learn about "money matters"--because money matters. Prerequisite: ENTR 386. F,S.

ENTR 395. Special Topics. 1-4 Credits.
Specially arranged seminars, courses, or independent study on a variety of topics not covered by regular program offerings. May be initiated by students with approval of the dean and department(s) involved. Repeatable to 9.00 credits. On demand.

ENTR 410. Marketing and Management Concepts for Entrepreneurship. 3 Credits.
Marketing and managing your startup--it's different from corporate management and marketing. This course is an introduction to the nature, significance and role of marketing and management in startup organizations. The primary objective is to explore the management and marketing functions from product/service conceptualization through the initial stages of startup growth sustainability. F.

ENTR 450. Venture Implementation. 3 Credits.
Expanding on the idea which began in ENTR 290, a significant pivot, or an entirely new venture idea, ENTR 450 prepares the venture for launch. This course orchestrates the idea, people, business model, legal ramifications, and finances into a complete, executable venture plan. Emphasis will be placed not only on the startup phase of the venture, but the equally important post-startup. You will also learn how to communicate your plan to stakeholders and incorporate constructive feedback from experts. Prerequisite: ENTR 290 and ENTR 386. S.

ENTR 497. Entrepreneurship Practice. 3 Credits.
Practical experience with an entrepreneurial firm or comparable experiential learning. All ENTR 497 experiences must be pre-approved by the Entrepreneurship Practice Director prior to beginning the experience. Prerequisite: ENTR 290 and Department consent. Repeatable to 3.00 credits. S/U grading. F,S,SS.

TECH 102. Digital Design Software. 3 Credits.
Learn to use industry-standard software to explore the principles of graphic design. You learn the principles of design production and develop the ability to communicate effectively in a visual format. F.

TECH 110. Fundamentals of Technology. 2 Credits.
The study of the philosophy and objectives of technology with emphasis on the theories, principles, and concepts of manufacturing, design, and electronics. F.

TECH 122. Computer-Aided Design. 3 Credits.
You are introduced to computer-aided design/drafting using AutoCAD software and technical drawing techniques to include blueprint interpretation, various projections, pictorials, dimensioning, developments and tolerancing. Hands-on exercises and drawing problems are reflective of industry and business. S.

TECH 200. Energy Fundamentals. 3 Credits.
The objective of the Energy Fundamentals course is to provide students with the fundamental knowledge to understand, and qualitatively and quantitatively calculate how energy is converted from basic energy sources such as fossil fuels, biomass, solar energy and wind to electrical energy. F.

TECH 201. Electromechanical Fundamentals. 4 Credits.
The study of the fundamental properties of mechanical, hydraulic, and electronic/electrical systems (primarily those that revolve around Direct Current (DC) including an introduction to Programmable Logic Controllers (PLCs). Experiential learning is facilitated through the use of project design and development. Prerequisite: MATH 103. Corequisite: PHYS 161 or equivalent. F.

TECH 202. Advanced Application of CADD Techniques. 3 Credits.
The advanced study of computer aided design/drafting to include 3D coordinates and layout, subsurface meshes, regions, solid modeling, and connection to computer numerical control (CNC). The creation of presentation graphics using bitmap files, shading, and rendering is also presented. Prerequisite: TECH 122 or consent of instructor. S.

TECH 203. Production Processes & Material Testing. 4 Credits.
This course provides students with an understanding of manufacturing processes and the strong interrelationships between manufacturing processes, product design, and material properties. Emphasis is placed on standard manufacturing processes such as casting, heat treatment, forming, turning, and milling. Additional topics covered will include material testing and inspection, and the interpreting technical drawings. S.

TECH 204. Industrial Materials. 4 Credits.
The theoretical and laboratory study of the physical and chemical attributes of organic and inorganic materials for conversion into industrial materials are explored. Source, structure, characteristics, properties, and practical applications of metallic, polymer, wood, ceramic, and composite materials are introduced. Laboratory activities are designed to explore the attributes of these materials as well as to practice the material testing processes. F.

TECH 211. Electric Circuits and Devices. 4 Credits.
The subject matter covered in this course will include concepts, principles, and operational characteristics of electronic/electrical components with a focus on Alternating Current (AC), discrete and integrated devices including computer driven electronic control systems. Design and developmental activities are facilitated through the use of simulation-Multisim software-and Ultiboard, a Printed Circuit Board (PCB) design and development software. Prerequisite: TECH 201, MATH 103 and MATH 105. S.

TECH 212. Visual Literacy. 3 Credits.
This course introduces the basic concepts of graphic design and visual communication. You sharpen brainstorming and problem-solving skills via design principles, color theory, and typography as they sharpen brainstorming and problem-solving skills. Prerequisite: TECH 102. S.

TECH 213. Wood Products Manufacturing. 3 Credits.
An introductory study of wood manufacturing methods and techniques utilizing tools and machines leading to the production of constructed assemblies. Prerequisite: TECH 110 or TECH 204 or consent of instructor. F, even years.

TECH 223. Applied Synthetics. 3 Credits.
A study of synthetic/polymer materials emphasizing identification of characteristics and properties; and their application as related to industrial products. Prerequisite: CHEM 115/CHEM 115L or CHEM 121/CHEM 121L. F, odd years.

TECH 230. User Experience and Interface Design. 3 Credits.
Have you ever felt frustrated using a website or digital interface that didn't function properly? This course introduces you to the common ways in which humans interact with digital interfaces. Through study of user experience principles, you will design digital interfaces that are easy to use. F.

TECH 232. Web Design. 3 Credits.
Learn how to design for the web using HTML and CSS. This class provides you with the principles and tools to create modern, aesthetically pleasing websites that are easy to navigate. S.

TECH 270. Design Thinking. 3 Credits.
Ever had a problem you didn't have any idea how to solve? Design thinking is actually a problem solving process you can learn! You will learn to approach highly unstructured problems and to create opportunities of them. Design thinking is an important entrepreneurial skill, but it is an equally important life skill. Design thinking is empowering--and a lot of fun. F,S.

TECH 300. Technology and Society. 3 Credits.
A lecture-recitation course emphasizing the various impacts of technology on the individual, society, environment and basic institutions. Technological matrix of various cultures. F,S.

TECH 311. Computers and Emerging Technologies. 3 Credits.
An introductory course to the personal computer with an emphasis on system hardware, boot-up sequence, configuration and customization, operating systems, upgrading, and troubleshooting. The course will also examine emerging computer technologies, various peripheral devices and interfaces, including network and computer wireless communications systems. F.

TECH 322. Digital Photography Fundamentals. 3 Credits.
Taking good pictures is more than point and click! This course is introduces the basic aesthetic and technical theories and techniques of digital photography. A digital camera with aperture priority, shutter priority, manual, and exposure compensation is required. F.

TECH 330. Quality Assurance. 3 Credits.
The study of principles and techniques of quality assurance and quality management, with an emphasis on the fundamentals of quality assurance for products, process control, and process capability. Related topics include quality design review, fundamentals of statistics, sampling and control chart systems, quality reporting, process capability analysis, tool and gauge control, document control, and troubleshooting quality control. Prerequisite: ECON 210 or consent of instructor. S, odd years.

TECH 332. Industrial Design. 3 Credits.
In this industrial design course students will learn how to design products in support of human activities and interactions. Principles and techniques of needs assessment, patent research, concept realization, design alternatives, and prototype development will be introduced through a creative and inventive process to address various instrumental factors such as product aesthetics, functionality, materials, sustainability, and usability. Prerequisite: TECH 122 or consent of instructor. F.

TECH 340. Cost Estimating. 3 Credits.
Principles and techniques necessary for the economic analysis and evaluation of industrial design projects. Prerequisite: ECON 210, MATH 146, or equivalent, or consent of instructor. S, even years.

TECH 341. Digital Integrated Circuits. 3 Credits.
The study of basic concepts of digital circuits and devices; operational characteristics of digital integrated circuits. Prerequisite: TECH 211 or consent of instructor. S, odd years.

TECH 373. Advanced Manufacturing Processes. 3 Credits.
This advanced course in manufacturing covers both the theory and practice of advanced manufacturing. The course will focus on advanced machines and processes that are used to a significant degree in modern manufacturing facilities including conventional CNC machines and also non-traditional processes such as additive manufacturing. Students will demonstrate their knowledge of these processes through a series of lectures, discussions, and laboratory activities with the resultant knowledge necessary to apply these principles and processes to appropriate applications. Prerequisite: TECH 122 and TECH 203, or equivalent. S.

TECH 396. Field Experiences in Technology. 1-6 Credits.
Provides students with supervised opportunities to engage in various technical industrial or business experiences by working with and learning from practicing professionals. Repeatable to 6 credits. Prerequisite: Junior standing or consent of instructor. Repeatable to 6.00 credits. F,S,SS.

TECH 397. Cooperative Education. 1-6 Credits.
A practical work experience with an approved company in business or industry, arranged by the student, faculty and employer. Repeatable to 6 credits. Prerequisite: junior standing, GPA of 2.5 overall, and faculty approval. Repeatable to 6.00 credits. S/U grading. F,S,SS.

TECH 399. Honors Tutorial. 1-3 Credits.
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TECH 400. Teaching Technology Education. 3 Credits.
An analysis of various methods employed in instructional techniques for industry and education. Development of methods and strategies of instruction use and ordering of instructional materials, based on behavioral objectives and classroom application of instructional techniques; lab activities. Prerequisite: Junior standing and consent of instructor. F, odd years.

TECH 403. Product Research and Development. 3 Credits.
The study of product development and production planning for manufacture through the application of research methodologies, design processes, and prototype development. Prerequisite: TECH 203 or consent of instructor. F.

TECH 420. Facilities Design. 3 Credits.
Principles and applications of designing industrial/business facilities with emphasis on site location, environmental consideration, qualitative and quantitative modeling. Computer application in facility planning and quantitative analysis; lab activities. Prerequisite: TECH 122. S.

TECH 422. Advanced Digital Photography and Imaging. 3 Credits.
Through specialized shooting techniques, this course builds upon the fundamentals learned in TECH 322 to expand your knowledge and abilities. You will explore several theme-based photographic topics that will challenge you visually and intellectually. Then you create a portfolio of unique photographs to tie these topics together into one theme. A digital camera with aperture priority, shutter priority, manual, and exposure compensation is required. Prerequisite: TECH 322 or consent of instructor. S.

TECH 433. Manufacturing Strategies. 3 Credits.
Theoretical and laboratory study of strategies utilized by business and industry to develop and maintain a competitive edge. Topics include lean manufacturing, Kanban, five S's, Kaizan, push and pull modeling, fishbone-4Ms, line balancing, and PoKayoke. Prerequisite: TECH 122 and TECH 203. F.

TECH 440. Occupational Safety. 3 Credits.
The major safety concerns and problems commonly associated with the industrial and occupational environment are addressed. Emphasis is placed on the study of safety rules and regulations, implementation of management tools to benefit people for optimum safety conditions and productivity, and the documentation required for record keeping. Prerequisite: Upper division students only. S.

TECH 442. Industrial/Applied Graphic Design. 3 Credits.
We explore the concepts of branding, info-graphics and various avenues of processing and translating information in a visual format. Emphasis is placed on the relationship between text and image through a series of design-based problems. The visual and conceptual aspects of branding focuses on the development of practical, multi-component design solutions including logo design and other business communication applications. Understanding and ordering complex data into useful and persuasive informational tools takes form via info-graphics, visual processes and procedures. Emphasis is placed on the use of formal design principles, creative brainstorming, conceptualizing, critical thinking, collaboration, and presentation. Prerequisite: TECH 212. S.

TECH 450. Packaging Design. 3 Credits.
This course introduces you to the unique challenges of packaging design. Through prototypes and finished products, you develop solutions to 3D design problems that will delight the user. Special emphasis is placed on social, sustainable, and environmental issues in the packaging industry. Prerequisite: TECH 122. F.

TECH 451. Computer Integrated Manufacturing. 3 Credits.
A study of computer integrated systems and their designs to facilitate the manufacture and production processes. Topics covered the application and integration of Programmable Logic Controllers (PLCs), microcontrollers, touch-screen, TCP/IP, and voice control systems to facilitate manufacturing processes. Students will also utilize commercial computer-aided design tools, i.e., Multisim and Ultiboard to design, simulate, and test designed manufactured systems. Prerequisite: TECH 201 and TECH 211. F.

TECH 452. Multimedia Production. 3 Credits.
This advanced graphics course is designed to explore multimedia production technologies, concepts, processes, methods, and techniques. The course provides hands-on experience applying multimedia technology to integrate graphics, text, sound and video into meaningful productions. On demand.

TECH 493. Workshop. 1-6 Credits.
A workshop course on a specific topic, primarily for, but not confined to, Continuing Education. Repeatable to 24 credits. Repeatable to 24.00 credits. F,S,SS.

TECH 497. Directed Studies in Technology. 1-8 Credits.
Studies in topics relevant to the students' needs in selected topics including, but not limited to, Graphics, Electronics, Production, and Technology Education. Prerequisite: Junior Standing and instructor consent. Repeatable to 8.00 credits. F,S,SS.

TECH 498. Senior Capstone I. 1 Credit.
This course is designed for students to select the topic for their final Senior Capstone project, conduct the preliminary required research, and plan the final project. Prerequisite: Senior standing and consent of instructor. F.

TECH 499. Senior Capstone II. 3 Credits.
The capstone course is designed to integrate and reflect on coursework covered throughout the student's program in order to demonstrate knowledge, understanding and competency related to the program goals. The course also facilitates students' transition from the academic to the professional world. Prerequisite: TECH 498, senior standing and consent of instructor. S.