# FORM A

**Board of Regents, State of Iowa**

**REQUEST TO IMPLEMENT A NEW BACCALAUREATE, MASTERS, DOCTORAL, OR FIRST PROFESSIONAL DEGREE PROGRAM**

**MASTER OF ENTREPRENEURSHIP**

**3-12-2021**

Yellow: Items to be completed by Provost Office

THE PURPOSE OF ACADEMIC PROGRAM PLANNING: Planning a new academic degree program provides an opportunity for a Regent university to demonstrate need and demand as well as the university’s ability to offer a quality program that is not unnecessarily duplicative of other similar programs offered by colleges and universities in Iowa.

Institution: Iowa State University CIP Discipline Specialty Title:\_\_\_\_Management and Entrepreneurship\_

CIP Discipline Specialty Number (six digits):\_\_\_\_\_\_\_\_\_\_\_\_

*NOTE: If department has recommendation – please feel free to enter – otherwise, provost office will fill these out*

Level: B M X D FP

Title of Proposed Program: Master of Entrepreneurship

Degree Abbreviation (e.g., B.S., B.A., M.A., Ph.D.): MENTSP

Approximate date to establish degree: Month Fall Year 2021

*NOTE: If department has recommendation – please feel free to enter – otherwise, provost office will fill these out based on anticipated meeting date when Board would approve the program.*

Contact person: (name, telephone, and e-mail) Dr. Deidra Schleicher – (515) 294-9822, deidra@iastate.edu

College that will administer new program: Iowa State Ivy College of Business

Please provide the following information (use additional pages as needed). Do not use acronyms without defining them.

1. Describe the proposed new degree program, including the following:
	1. A brief description of the program. If this is currently being offered as a track, provide justification for a standalone program.

The Department of Management and Entrepreneurship in the Ivy College of Business is proposing a Master of Entrepreneurship degree. This proposal furthers the strategic goals of the Ivy College of Business to advance entrepreneurship and innovation within the college; moreover, the proposal aligns with President Wintersteen’s university-wide President’s Initiative in Entrepreneurship and Innovation; and finally, the proposal supports Iowa State’s Economic Development and Industry Relations goals of advancing technology commercialization and supporting new entrepreneurial venture creation at Iowa State and in our community.

The Master of Entrepreneurship will complement the Ivy College of Business’s existing suite of entrepreneurship offerings including a cross-disciplinary minor in entrepreneurship, undergraduate major in entrepreneurship, a PhD program in entrepreneurship, and a Graduate Certificate in Entrepreneurship and Innovation (see end of Appendix A for a comparison between the proposed Master’s degree and this Graduate Certificate). The one-year Master of Entrepreneurship program will offer an exciting blend of core curriculum and critical experiential learning components that together teach the most important entrepreneurial skill sets.

This proposed program is characterized by

* + - Subject matter responsive to and driving trends in entrepreneurship
		- Innovative pedagogical methods
		- A learning environment that elevates student capacity for contribution and co-creation, collaboration, and pursuing entrepreneurial endeavors and social innovation
		- Unique opportunities for students to contribute in the classroom and through applied learning opportunities
		- Commitment to lifelong learning and advocacy relationships
		- Access to experts, resources, and networks that advance students professionally and leverage their interest and engagement in entrepreneurship

Students who pursue the Master of Entrepreneurship will gain an understanding of entrepreneurship processes and practices both in and outside the classroom. Students will engage in networking within Iowa State’s entrepreneurial environment and learn practical applications of entrepreneurship by participating in hands-on learning experiences with actual startup or community ventures. The curriculum for this proposed degree is designed to be somewhat flexible, to account for students’ varying interests, background, and plans, and is shown in greater detail in Appendix A.

* 1. A statement of academic objectives;

Students in this degree will be provided with the knowledge, skills, entrepreneurial ecosystem, and practical experience to prepare them to start and manage new business ventures independently or within established organizations. Students will develop and practice the primary entrepreneurial skills needed to identify and evaluate market opportunities and think creatively to formulate and implement successful strategies for moving a business idea forward.

Experiential learning, defined as knowledge creation through active involvement in activities relevant to the desired skill or competency (Kolb, 2015), has long been viewed as a valuable tool in higher education and is a critical part of this proposed degree program. Learning through such experiences has been shown to enhance cognitive development (Burch et al., 2019), including the ability to think deeply and critically on a number of issues and apply knowledge to a wider range of real-life scenarios; it also better accommodates a wider range of learning styles, particularly among non-traditional learners (Cantor, 1997). The benefits of experiential learning are particularly relevant to the business classroom, and scholars have noted an increased need to provide this type of learning to business students (Kolb & Kolb, 2005). Moreover, experiential learning is now among the standards on which the AACSB accredits schools (AACSB, 2017). Regarding entrepreneurship education specifically, “it is increasingly recognized that to be effective entrepreneurial learning has to be experiential…‘Teaching entrepreneurship... requires going beyond understanding, knowing and talking: it requires using, applying and acting. Entrepreneurship requires practice’” (Mason & Arshed, 2013, p. 450). Importantly, such experiential learning opportunities in entrepreneurship education complement and reinforce classroom learning through *application* (Mason & Arshed, 2013). [Full reference citations included at end of this document.]

**LEARNING OUTCOMES:**

Completion of the Master of Entrepreneurship will provide students a functional, competitive, and strategic foundation for:

* + - **Identifying and growing core capacity for entrepreneurship**

Build capacity to identify and understand business risk, market volatility, cultural and political shifts and drivers, and assess resources and opportunities to create solutions to market or industry needs.

* + - **Developing and testing business ideas**

Create and develop business concepts, test market viability, and establish a framework to generate ideas, make decisions, and test business ideas.

* + - **Identifying and securing key stakeholder relationships**

Design, deploy and practice the entrepreneurship process by engaging and collaborating with key stakeholders from diverse technical, educational, and functional backgrounds.

* + - **Strategically positioning and launching new ventures**

Identify, model, and strategically position new ventures by creating and accessing technical and human resources and sources of capital.

* + - **Designing and implementing strategic plans, processes and systems for innovation**

Scope, create, and launch competitive and differentiating organizational strategies for innovation, incorporating aligned components of hypothesis-driven experimentation, entry timing, innovation portfolio, innovation value-chain, collaboration strategies, marketing, and analysis of contingencies.

* 1. What the need for the program is and how the need for the program was determined;

Regarding need for entrepreneurship-related curriculum in general, in a recent survey of 1,800 Iowa State alumni, 80% of respondents answered yes to the question of whether it would be beneficial for everyone at Iowa State to take a course related to entrepreneurship, regardless of their major. Further, respondents indicated that having an entrepreneurial mindset is important in any industry. After introducing the major in entrepreneurship in 2017, first year enrollment surpassed its goal of 50 students, and the numbers have been steadily increasing, with the most recent semester at a count of 97 students.

With the growth in participation in the Pappajohn Center for Entrepreneurship programs, the success of the student and faculty entrepreneurship accelerators, and expansion of the ISU Research Park, there is a recognized need to expand academic opportunities for graduate-level students in the study and practical application of entrepreneurship. The proposed Master of Entrepreneurship addresses this need. Students pursuing this degree may pursue their individual venture concepts or fill needed positions in startup companies associated with Iowa State.

Demand for a Master of Entrepreneurship degree is further supported by results of a recent survey of 1,371 Iowa State students. The survey found that close to 800 students ranked a one-year master’s degree as their preferred format for graduate-level entrepreneurship education. Further, desired aspects of a master’s level entrepreneurship degree include networking, mentorship, experienced faculty, and startup assistance. Of ranked schools in entrepreneurship at the graduate level, 53% of institutions offer a one-year master’s degree in entrepreneurship, and 40% offer an MBA with entrepreneurship specialization.

The likely interest in a practical, “hands-on” graduate degree in entrepreneurship extends outside the Ivy College of Business. Iowa State’s focus on agriculture, engineering, biosciences, and other STEM-related disciplines provides a foundation that naturally cultivates entrepreneurial activity, and providing sufficient “business acumen” to especially the science and technology graduates at this university who have products to launch is an important aspect of this proposed degree. In addition, the university’s (and the state’s) focus on economic development aligns well with the establishment of a master’s-level entrepreneurship program that requires engagement in entrepreneurship efforts at Iowa State.

* 1. The relationship of the proposed new program to the institutional mission and how the program fits into the institution’s and college’s strategic plan;

In 2017, President Wintersteen launched her President’s Initiative in Entrepreneurship and Innovation to create cross-campus opportunities in the classroom, outside the classroom, and through economic development pursuits.

*“In five years, Iowa State will become widely recognized for promoting, teaching and practicing innovation and entrepreneurship for the good of our students, faculty, staff, and society.”*

*-President Wintersteen*

Iowa State University, in its strategic plan, is committed to fostering economic growth and development and working to commercialize its scientific discoveries.  Through programs like I-Corps, ISU Startup Factory, CYstarters, and with startups launching within the ISU Research Park, Iowa State is achieving these goals with significant success.  However, a common gap among companies is the participation of team members and leaders who possess the appropriate business acumen to move these technologies into successful business ventures.  The Master of Entrepreneurship curriculum will help to educate those with an affinity toward entrepreneurship by teaching skills that can be *applied* to these live university business ventures.

This campus-wide focus on promoting, teaching, and practicing entrepreneurship is also reflected in the Ivy College of Business’ strategic plan, which highlights the importance of establishing new graduate degrees in response to industry and market trends, as well as developing these degrees in an interdisciplinary fashion. Entrepreneurship courses and degrees are proliferating quickly around the world as a growing number of students attend university with the explicit goal of starting their own business. Iowa State is in a position to capitalize on this trend by growing its suite of entrepreneurship degree offerings.

Moreover, the Ivy College’s strategic plan states that the college will “become the business college of choice for creating knowledge, maximizing student potential, engaging businesses, and promoting global citizenship.” Two specific entrepreneurship-related goals include:

1) Increasing student participation in local and national business plan and case competitions
2) Increasing education and assistance for entrepreneurs and business professionals

Offering a Master of Entrepreneurship degree would be a perfect complement to the wide array of entrepreneurship courses, competitions, and hands-on experiences already being offered at the Ivy College and through the Pappajohn Center for Entrepreneurship.

* 1. The relationship of the proposed new program to other existing programs at the institution; describe how the proposed program will enhance other programs at the university. Will the proposed program duplicate existing programs at the university?

The Master of Entrepreneurship degree will complement and enhance both existing academic programs focused on entrepreneurship and innovation as well as outside-the-classroom activities. Specifically, the master’s program, with its requirement for students to complete practical, hands-on experiences in entrepreneurship and new venture creation, will fill an important gap in the institution’s ability to serve individuals interested in pursuing entrepreneurship as a career path. This enhancement is most clear in the case of the Graduate Certificate in Entrepreneurship and Innnovation (GCEI). Students who complete the GCEI could benefit from the master’s degree’s experiential and other practical opportunities. The master’s degree will also offer potential staff and partners the opportunity to participate in faculty startups, commercialization efforts, and other entrepreneurial businesses already operating within the university’s economic development ecosystem.

* 1. The relationship of the proposed new program to existing programs at other colleges and universities in Iowa, including how the proposed program is different or has a different emphasis than the existing programs.

No other Iowa institutions offer a Master of Entrepreneurship degree.

* 1. Special features or conditions that make the institution a desirable, unique, or appropriate place to initiate such a degree program.

Iowa State is well-positioned to offer this graduate degree program that will pair the Ivy College of Business faculty strengths in teaching and the scholarship of entrepreneurship with the practical learning opportunities offered through the Pappajohn Center for Entrepreneurship. These experiential, hands-on learning opportunities are facilitated through the university NSF I-Corps program, CYstarters and Startup Factory accelerator programs, and the ISU Research Park. Additionally, the opening of the Student Innovation Center will provide additional learning opportunities through workshops, competitions, and hands-on learning in an interdisciplinary, collaborative environment rich with tools and resources such as makerspaces, a digital media lab, and an entrepreneurship hub and co-working space.

* 1. Are the university’s personnel, facilities, and equipment adequate to establish and maintain a high-quality program?

The Department of Management and Entrepreneurship at Iowa State is well-prepared to offer the proposed degree program. The Gerdin Business Building is a superb resource and has recently completed an expansion, which will allow for more courses to be offered in the facility. Faculty members in the Department of Management and Entrepreneurship have scholarly expertise and practical experience in entrepreneurship, innovation, and technology development. The department currently has 10 faculty members with expertise in these specific areas.

ISU’s Pappajohn Center for Entrepreneurship is housed with other ISU economic development units within the Core Facility, a 40,000 sq. ft. collaborative facility at the ISU Research Park, which is home to more than 100 startup companies and organizations that will facilitate the experiential learning component of the master’s degree program. Additionally, the university’s $81 million, four-story Student Innovation Center will provide a “learning laboratory" environment on campus to make it easy for student collaboration, creativity, and co-working. Both the Pappajohn Center and the rest of ISU already offer several formalized, mature programs that will form a large part of the experiential component of this new Master’s degree.

* 1. How does student demand for the proposed program justify its development?

Numerous indications confirm demand for a Master of Entrepreneurship degree at Iowa State is real and growing. A recent survey of 1,371 Iowa State students found that almost 800 students ranked a one-year master’s degree as their preferred format for a graduate level entrepreneurship degree. Furthermore, the Pappajohn Center for Entrepreneurship has seen significant growth in the number of applications for its CYstarters student accelerator program (triple the first year of the program in 2015), including graduate and doctoral students. The students are working on viable business concepts and benefit greatly from an immersive accelerator program. Additionally, student demand for inclusion in the Startup Factory has been strong, as it provides an opportunity for technical graduate students, post docs, and faculty members to validate technological discoveries stemming out of the research labs on campus. All of these reflect growing student demand for entrepreneurship-related programs, and a formal master’s program in entrepreneurship provides another important avenue for graduate-level students to pursue a venture creation opportunity. Moreover, students in the master’s program will provide needed skills sets in contributing to the development of other startups in the ISU entrepreneurial ecosystem.

1. Describe the state and/or national workforce need and/or demand for graduates of the proposed program currently and in the foreseeable future (provide documentation about the current sources of data used to estimate need and demand).

As reported in an October 2020 World Economic Forum article, “Why universities should support student entrepreneurs – here's why and how”:

*Fast-growth entrepreneurial ventures are essential for prosperity and social progress. Entrepreneurs create value by seizing opportunities, assuming risks, solving problems and taking action. They take risks in creating and commercializing innovative technologies in ways that larger businesses are unable to. Sometimes these technologies open completely new markets, transforming industries. Tesla is a good example.*

*Universities play a crucial role in underpinning innovation and entrepreneurial activities. They provide the conditions, facilities and talent that foster the emergence of breakthrough ideas. Many have systems in place to support the development of new ideas so that they have practical use. They play an important part in maintaining the deal flow that gives opportunities for venture capital investment, which in turn mobilizes the growth of entrepreneurial ventures.*

*In the past, a university education typically prepared students for careers defined by others. More than ever in the unpredictable post-pandemic world,* [*universities need to prepare them for careers they define themselves*](https://www.weforum.org/agenda/2020/04/how-an-entrepreneurial-approach-can-help-end-the-covid-19-crisis/)*. Universities have to offer the curricula, facilities and incentives to create new generations of entrepreneurs, as well as the traditional pathways into the professions, established companies and into government.*

*This is part of the sea of change that is needed to modernize universities and will play a crucial role as they help build the jobs and industries* [*needed for economic recovery after COVID-19*](https://www.weforum.org/agenda/2020/07/university-entrepreneurship-post-covid-19-world/)*. When once it was a marginal activity, entrepreneurship has become a centrally important part of the university experience.*

The Kauffman Foundation’s *2019 Entrepreneurship Indicators* reports that the current national and statewide (Iowa) rate of participation in entrepreneurship is 31%, meaning 310 of every 1,000 adults becomes an entrepreneur. Further, startups create on average of 5.2 jobs for every 1,000 people, and the survival rate is 79.6% nationally (81.4 percent in Iowa), meaning 8 out of every 10 startups survive (which is vastly different from two decades ago).

Those who will end up starting, or even working in, a small or entrepreneurial company will benefit from advanced graduate education in entrepreneurship and innovation.

1. List all other public and private institutions of higher education in Iowa currently operating programs similar to the proposed new degree program. (For comparison purposes, use a broad definitional framework, e.g., such identification should not be limited to programs with the same title, the same degree designation, having the same curriculum emphasis, or purporting to meet exactly the same needs as the proposed program.)

Currently, this Master of Entrepreneurship would be the first of its kind in the state of Iowa.

1. Estimate the number of majors and non-major students that are projected to be enrolled in the program during the first seven years of the program.
	1. Undergraduate

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Undergraduate | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 |
| Majors | NA |  |  |  |  |  |  |
| Non-Majors | NA |  |  |  |  |  |  |

* 1. Graduate

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Graduate | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 |
| Majors | 15 | 20 | 25 | 30 | 30 | 30 | 30 |
| Non-Majors | NA | NA | NA | NA | NA | NA | NA |

* 1. What are the anticipated sources of these students?

The ISU Ivy College of Business Master of Entrepreneurship is designed for:

* + - * Existing entrepreneurs who are seeking assistance in order to take their startup to the next level
			* Working professionals who aspire to be entrepreneurs
			* Recent graduates who have a business idea and are serious about taking the next steps to start it up
			* Recent graduates who may not have an idea, but aspire to help found a business and can be connected to existing startup teams or university IP in pursuit of that goal

The Ivy College of Business’ Director of Professional Masters Programs Recruiting will also work with faculty and staff to develop and execute a strategic recruiting plan for the proposed program.

1. If there are plans to offer the program away from the campus, briefly describe these plans, including potential sites and possible methods of delivery instruction. Will off-campus delivery require additional **HLC accreditation**?

There are no plans to offer this program away from campus.

1. Has the proposed program been reviewed and approved by the appropriate campus committees and authorities?

The program has been approved by the Department of Management and Entrepreneurship and is proceeding towards evaluation by the appropriate College and Faculty Senate Curriculum Committees, the Faculty Senate, the Provost and, eventually, the President.

1. List date the program proposal was submitted to the Iowa Coordinating Council for Post High School Education (ICCPHSE) and results of listserv review.

 Note: will be completed by the Provost Office.

1. Will the proposed program apply for programmatic accreditation? When?

The proposed program will be covered by the existing AACSB accreditation of the Ivy College of Business. The proposed program will be evaluated every five years along with all other degree programs offered by the Ivy College of Business as part of its Continuous Improvement Review.

1. Will articulation agreements be developed for the proposed program? With whom?

No.

1. Will there be opportunities for student internships?

One option for students to achieve experiential credits (see Appendix A) will be to intern in a startup company within the Startup Factory, the CYstarters accelerator, or within a startup or existing company located at the ISU Research Park. With more than 100 companies and organizations operating within the ISU Research Park, there are plenty of opportunities for masters- level entrepreneurship students to apply their classroom learning to an existing business.

1. Describe the faculty, facilities, and equipment that will be required for the proposed program.

See response to 1h above.

1. From where will the financial resources for the proposed program come (list all that apply, e.g., department reallocation, college reallocation, grants, new to the university)?

Iowa State University utilizes a decentralized financial management model for the development of its annual operating budgets. The Resource Management Model (RMM) is a responsibility-centered and incentive-driven approach to financial planning and management. The model supports departments and colleges in making budgetary decisions that enhance student success (e.g., retention), innovate by meeting market demands from students and employers for degree programs of the future, and discontinue legacy curricula which are either not aligned with industry/employer needs or for which student demand is low. Through the RMM, for graduate and professional students, net tuition revenue is allocated to academic colleges based on a student’s enrollment. Tuition revenue will include both base tuition and applicable differential rates. The proposed degree program will be funded through this existing, proven financial model, and is expected to be fully self-sustaining over time. In addition to the budget model as described, financial resources may also come from internal reallocations made within the college during the program’s startup phase. The level of reallocation will depend, in part, on the numbers of new students attracted to the proposed program, and the number of existing students who choose the proposed program over another program, based on standard and differential tuition rates. The proposed program will not be dependent on grants, contracts, gifts, central university resources, or reallocations between academic colleges.

1. Estimate the total costs/total new costs (incremental increases in expenditures) that will be necessary for the next seven years as a result of the new program. Be as specific as possible.

There are no total new costs for this program. The department has the necessary faculty in place to begin offering the program. Through the budget model described above, tuition revenue associated with student credit hour production will support the cost of teaching classes for this program (including the instructor responsible for supervising the “experiential” components) and any marginal costs for equipment or marketing. This program will not require investments in fixed expenses such as facility renovations, information technology software, or licenses.

1. Describe the marketing plan developed to communicate the new program and recruit students.

The Graduate Programs office in the Ivy College of Business will incorporate this new program into its overall marketing strategy for graduate student recruitment. The program will be included in print materials, websites, and other marketing strategies to attract students from within the state, from across the country and globally. The program will also be included in the appropriate college and departmental recruiting materials, websites, and outreach programs. The program will be especially relevant to undergraduate students in the entrepreneurship major or minor, as well as alumni with an entrepreneurial itch, and marketing will be targeted specifically to this demographic.

1. Describe the program evaluation plan to determine if the program is meeting the intended objectives, if the expected student enrollment has occurred, funding for the program, and any other components that affect the effective operation of the program.

This program will be incorporated into the university’s normal academic review process. That review process assesses whether the program is achieving it mission, providing high quality academic experiences, and fulfilling the enrollment and success metrics identified for the program. In addition to the academic program review, as a part of the college budgeting process, the program will be monitored annually for achievement of enrollment goals.

1. Include any additional information that justifies the development of this program.

**Appendix A**

**MASTER OF ENTREPRENEURSHIP CURRICULUM**

 “To equip students to meet today’s entrepreneurial opportunities and challenges”

With this Master’s degree, students will develop the primary entrepreneurial skills needed to identify and evaluate market opportunities and formulate and implement successful strategies for moving a business idea forward. They will do this through innovative pedagogical methods in the classroom, multiple experiential learning opportunities, and networking within ISU’s extensive entrepreneurial environment. Key learning objectives of this program include

* Identifying and growing core capacity for entrepreneurship
* Developing and testing business ideas
* Identifying and securing key stakeholder relationships
* Strategically positioning and launching new ventures
* Designing and implementing strategic plans, processes, and systems for innovation

**Minimum credit hours**: 30 (could be completed in one year)

A benchmarking study conducted by the ISU Pappajohn Center for Entrepreneurship on other schools offering a Master of Entrepreneurship shows that the majority of these Master’s programs require 30 credit hours. Thus, the proposed program is very much in line with other Master’s programs in this area.

**Requirement:** Senior concurrent or Graduate level

**REQUIRED COURSES (6 CREDITS)**

MGMT 566 Entrepreneurship and New Venture Startup (Online)

ENTSP 570X Launching your Startup: Proof of Concept and Financial Viability (Online)

**ELECTIVE COURSES (15 to 18 CREDITS)**

(5 – 6 of the following elective course options)

**Ivy Courses:**

**ACCT 561** Entrepreneurship and Accounting Information

**FIN 431** Small Business Financing Decisions

**FIN 535** Venture Capital and Private Equity

**ENTSP 567** Launching International Ventures (online)

**ENTSP 580** Applied Entrepreneurship (ENTSP 480 open to graduate students)

**ENTSP 510** Social Entrepreneurship (MGMT410/ENTSP 410 open to graduate students)

**ENTSP 585** Trends in Entrepreneurship (ENTSP 485 open to graduate students)

**MGMT 422/522** Negotiation and Conflict Resolution (open to graduate students)

**MGMT 523X** Leadership

**MGMT 583** Formulating and Implementing Innovation Strategies (online)

**MKT 542** New Product Strategy & Analysis

**MKT 568** Marketing Analytics

**MKT 590** Managing for Creativity

**Other Courses:**

**IE 578X** Human-Centered Design and Manufacturing

**IND D 532** Design Thinking

**IND D 560X** Change by Design: Disruptive Innovation

**FFP 530** Fundamentals of Family Financial Planning

**FFP 540** Estate Planning for Families

**FFP 545** Retirement Planning, Employee Benefits, and the Family

**FFP 583** Investing for the Family’s Future

**ME 584** Technology, Globalization and Culture

All of the courses identified above currently exist and do not need to be developed for this degree program (see course catalogue descriptions at the end of Appendix A).

**EXPERIENTIAL (6 to 9 CREDITS)**

Experiential opportunities are a critical part of this degree (see section 1.b. of this Form A for this justification), and students must complete at least 6 (and generally no more than 9) credits of hands-on (or experiential) learning related to entrepreneurship or venture creation.\* Students have the option to pursue their own venture idea (as an individual or with a team) within these experiential opportunities and are encouraged to do so. Moreover, there are many existing programs at the university that serve as options for these experiential credits. The best mix of experiential opportunities and elective courses will and should be a function of the student’s interests, experience, plans, and prior coursework (see “Possible Student Paths” further below). A faculty member will be assigned as “coordinator” for this experiential component (as part of their formal teaching load) to help students select among and supervise participation in these experiential credits as well as to ensure integration and complementarity with the academic and classroom parts of this program. **Importantly, all experiential credit opportunities will include active reflection and dissemination of learning back to the rest of the program cohort**. Please note that most of these experiential options are already mature, formalized programs within ISU (see descriptions further below).

\*The benchmarking study by ISU’s Pappajohn Center for Entrepreneurship showed that schools with particularly strong entrepreneurship-related reputations (i.e., Babson, Rice, Michigan) offer up to 12 experiential credit hours. The proposed 6-9 experiential credits in this program offers a good balance based on students’ individual needs and backgrounds.

**ENTSP 590** Independent Study - need to work with a faculty member (1-3 credits)

**ENTSP 591** Pappajohn Center or Graduate Career Services Internships (up to 3

credits/semester)

**ENTSP 592\*\*** CYstarters Summer Accelerator **(**6 credits)

**ENTSP 593** Independent Business Venture(up to 3 credits/semester)

**ENTSP 594\*\*** Startup Factory (6 credits in one year)

**ENTSP 595** Pappajohn Center/Ivy CoB/Student Innovation Center experiential

opportunities (1/2 to 1 credit each)

\*\*These options require application and acceptance into the experiential program.

**GRADUATE CERTIFICATE IN ENTREPRENEURSHIP AND INNOVATION (GCEI)**

Students who hold the ISU GCEI could transfer two of the CGEI required courses (6 credits) and one elective (3 credits). (See the end of this Appendix for a comparison of the proposed Master’s degree with the GCEI.)

**RECENT GRADUATE MAJORS**

Students will be able to double count up to 6 credits from their undergraduate program.

**POSSIBLE STUDENT PATHS**

Students in the Master of Entrepreneurship Program have the flexibility to tailor their experiential learning to suit their interests, prior coursework, experience, or entrepreneurial pursuits. Following are a few examples of how students may build their experiential program.

|  |  |  |
| --- | --- | --- |
| **Student Profile** | **Experiential Credits May Include** | **Possible Elective Classes** |
| Student interested in entrepreneurship, but does not have an idea of their own. | **ENTSP 595:** Join an I-Corps Team as the Entrepreneurial Lead along with a Faculty or Technical Graduate Student who has developed technology and wants to validate (2 credits)**ENTSP 595:** Attend an Intellectual Property Seminar (1 credit)**ENTSP 591:** Intern in a Tech Startup Company (3 credits) | Students with a business background/degree can take specialized courses to develop understanding in particular areas of need, such as:**MKT 568:** Marketing Analytics**MGMT 523X**: Leadership**FFP 540:** Estate Planning for Families**ACCT 571:** Entrepreneurship and Accounting Information**FIN 535:** Venture Capital and Private EquityStudents without prior coursework in a business discipline may prefer to enroll in more foundational business courses, such as: **MGMT 567:** Launching International Ventures**ENTSP 580**: Applied Entrepreneurship**ACCT 571:** Entrepreneurship and Accounting Information**FIN 535:** Venture Capital and Private Equity |
| Student recently graduated with an undergraduate or graduate degree and has an entrepreneurial idea in mind that they would like to pursue and move forward.  | **ENTSP 592:** Apply for CYstarters summer accelerator (6 credits) |
| Student wants to explore avenues for commercializing a new technology. | **ENTSP 594:** Apply for Startup Factory (full year program, 6 credits) |
| Student hoping to take over family’s business. | **ENTSP 595:** Pappajohn Center Start Something Workshop Series (1 credit), Pitch or Business Model Workshop and Competition (1 credit), Innovation Prize Weekend (1 credit)**ENTSP 593:**  Independent Business Venture |

 **Description of Experiential Opportunities**

**ENTSP 590** **Independent Study** (need to work with a faculty member (1-3 credits)

Students could work with a faculty member on a specific entrepreneurship project, preferably their own idea for a new business or new venture.

**ENTSP 591** **Pappajohn Center or Graduate Career Services Internships** (3 - 6 credits)

Experience working side-by-side with ISU Research Park company CEO in a startup or existing technology business. M.S. students would receive course credit. Students may intern during the academic year (10-20 hours per week) or during the summer (30-40 hours per week).

**ENTSP 592\*\*** **CYstarters Summer Accelerator** (6 credits)

Ten-week immersive experience for startups (individual or team). M.S. students would receive course credit in lieu of funding, but would access all programming, facilities, accountability, and mentoring. Recommended for business ideas with established traction.

**ENTSP 593** **Independent Business Venture** (3 credits)

M.S. students working on a business launch may access one-on-one support from the Pappajohn Center for Entrepreneurship and Small Business Development Center in partnership with the student’s faculty adviser. [May need a “proposal submittal” process for students to gain approval for their project.]

**ENTSP 594\*\* Startup Factory** (6 credits)

M.S. students with a viable technology idea may be accepted into Startup Factory, a year-long accelerator. Students meet weekly for curriculum training and work on their businesses independently with educator, professional and mentor resources.

**ENTSP 595** (typically 1 credit but may vary based on time commitment)

Includes other credit-earning experiential opportunities: ISU NSF I-Corps Training Program, Intellectual Property Technology Search, Pappajohn Center for Entrepreneurship Workshops, Pappajohn Center Start Something Series, Student Innovation Center Workshops, Pitch and Business Plan Competitions (offered fall and spring semester), entrepreneur case competitions, attendance at Young Entrepreneur Convention (YEC), Collegiate Entrepreneurs Organization Conference (CEO), 1 Million Cups events, Innovation Prize Weekend, Startup Weekend.

Examples include:

**ISU NSF I-Corps Training Program** (2 credits)

I-Corps is a four-week (8 total hours) lean startup program opportunity during which an ISU technology is validated as a potential commercial venture. M.S. students would fill the role as “Entrepreneurial Lead” among a team of three people including an “Academic Lead or Faculty Member” and “Mentor” who could be an ISU faculty or staff member or external entrepreneur. The training program requires some out-of-classroom work. If the concept is validated, the idea could be taken forward into CYstarters, Startup Factory, or the national I-Corps program.

**Intellectual Property Technology Search** (1 credit)

M.S. students may research ISU technologies available for licensing or commercial launch. This is an option for M.S. students who may not have an idea of their own and are searching for an opportunity. Iowa State’s database of available technologies covers the areas of agriculture, engineering and physical science, energy and clean tech, healthcare, imaging, life sciences, materials, medical devices, research tools, sensors and controls, software, and veterinary medicine. Identified technologies may be moved forward through I-Corps or other programming.

\*\*application and acceptance required

**Experiential programs background information:**

I-Corps: <https://www.research.iastate.edu/icorps/>

IP Database: <http://isurftech.technologypublisher.com/>

CYstarters: <https://www.isupjcenter.org/programs/cystarters/>

Startup Factory: <https://isustartupfactory.org/>

Reiman Internship Program (limited to ISU Research Park companies): <https://www.isupjcenter.org/grow/internship-match-program/>

***Course Catalog Descriptions***

REQUIRED COURSES

[**MGMT 566: Entrepreneurship and New Venture Startup**](https://catalog.iastate.edu/azcourses/mgmt/) ***(3-0) Cr. 3.***

*Prereq: Graduate classification or permission of instructor.*
 *The essentials of starting and operating a new business. Topics include current research on entrepreneurial perspective, starting and developing a new business, financing the venture, managing the growing firm, and special issues*

**ENTSP 570 X: Launching your Startup: Proof of Concept and Financial Viability – *(3-0) Cr. 3***

New class! Temporary description

Hands-on class that develops each student’s business idea. Students are responsible for bringing their own business concept, which they develop during the semester. We create an MVP (Minimum Viable Product), which is a tool to test market viability. Each student will test their idea against their target market and work directly with experts within the industry to build a financial profile of their business and to better understand their target customer. Students will build a presentation slide deck and present their idea to real investors using real market data. In the end, students will leave class with enough information to make a decision whether to pursue their business idea and a framework to evaluate all future business ideas.

CORE ELECTIVE COURSES

[**MGMT 567: Launching International Ventures**](https://catalog.iastate.edu/azcourses/mgmt/) ***(3-0) Cr. 3.***

Essentials of operating international ventures. Topics include identifying and evaluating international business opportunities, choosing among international markets and modes of international entry, building an international organization, managing across cultures, financing international ventures, and recognizing the major issues related to starting a venture in a non-US context. International entry plan for an international new venture or an existing business.

[**MGMT 583: Formulating and Implementing Innovation Strategies**](https://catalog.iastate.edu/azcourses/mgmt/) ***(3-0) Cr. 3.***

*Prereq: Graduate classification or permission of instructor.*

Key strategies, models, and tools to foster and drive organizational innovation. Analysis of industry dynamics, sources and types of innovations, timing of entry; formulation of innovation strategies; developing innovation portfolios and collaboration strategies, protecting innovation; implementing technological innovation strategy, including new product development and deployment strategy. Essential traits of innovative strategic leaders. Critical analysis and discussion of cases focused on entrepreneurship and innovation and project requiring hands-on practical application of course concepts.

ELECTIVE COURSES

[**ENTSP 580: Applied Entrepreneurship: Executing New Ventures and Projects**](https://catalog.iastate.edu/azcourses/entsp/)

**(Dual listed with MGMT 480)** **(3-0) Cr. 3.** Prereq: [MGMT 310](https://catalog.iastate.edu/search/?P=MGMT%20310); [MGMT 313](https://catalog.iastate.edu/search/?P=MGMT%20313) or [MGMT 320](https://catalog.iastate.edu/search/?P=MGMT%20320) Experiential learning through student-identified project. Students identify, propose and execute an experiential learning project that will be completed during the semester. The course provides application-oriented learning of entrepreneurship. The course project must include a significant experiential learning activity, such as launching a venture or business, writing a business plan, or completing an internship in an entrepreneurial setting. Requires a field project.

[**ENTSP 510: Social Entrepreneurship**](https://catalog.iastate.edu/azcourses/entsp/) ***(3-0) Cr. 3. F.S. Dual Listed with ENTSP 410***

Prereq: Sophomore classification
 Introduction to issues related to the role of social entrepreneurship in helping to solve social problems, including innovation, opportunity recognition, planning and the launch of new non-profit organizations.

[**MGMT/ENTSP 585: Trends in Entrepreneurship**](https://catalog.iastate.edu/azcourses/mgmt/) ***(3-0) Cr. 3. Dual listed with ENTSP 485***

Prereq: [ENTSP 310](https://catalog.iastate.edu/search/?P=ENTSP%20310) A broad examination of historical, literary, and business perspectives on entrepreneurship. The entrepreneurial process is studied by examining the role of individuals, new ventures, and established organizations in the discovery, evaluation, and exploitation of economic opportunities. Emphasis is placed on tracing the evolution of entrepreneurship theories over time, as well as analyzing current trends related to the study of entrepreneurship.

**MGMT 422X. Negotiation and Conflict Resolution.**

(3-0) Cr. 3. *Prereq: MGMT 371.* (Dual listed MGMT 422X)

Understand the theory and practice of negotiation in a variety of settings. Negotiation is the art and science of securing an agreement between two or more interdependent parties. Understand the behavior of individuals, groups and organizations in the context of competitive situations. Team work and team building is integrated to better understand interdependent relationships and processes. Negotiation problems faced by managers and professionals in organizations. Complements the technical and diagnostic skills learned in other courses at ISU. Analytical skills needed to discover optimal solutions to problems and a broad array of negotiation skills are needed in order for these solutions to be accepted and implemented.

**MGMT 523X. Leadership.** (3-0) Cr. 3. *Prereq: Enrollment in the MBA program or permission of instructor.* Applied overview of organizational leadership and teamwork, with special emphasis on the ability to successfully influence in a variety of contexts. Areas of emphasis include: research to better understand the influence process; leadership, followership, and management as a process; change and how to better lead and manage change in organizations.

[**MKT 542: New Product Strategy and Analytics**](https://catalog.iastate.edu/azcourses/mkt/) ***(3-0) Cr. 3. S.*** *Prereq:* [*MKT 501*](https://catalog.iastate.edu/search/?P=MKT%20501)Principles and concepts of new product development and introduction; decision areas include market definition and structure, idea generation, concept evaluation, test marketing, launch tracking, and global product planning; models and techniques of new product evaluation used by consumer product companies.

[**MKT 568: Marketing Analytics**](https://catalog.iastate.edu/azcourses/mkt/) ***(Cross-listed with MIS). Cr. 3. F.S.***

Integration of various concepts to solve problems using appropriate tools. Specifically, the course consists of the following three components: (a) help students develop consultative problem-solving skills; (b) introduce various newly developed consumer behavior theories; (c) provide an overview of quantitative models in the field of marketing analytics. Hands-on experiences to enhance skills such as formulating problems, structuring and prioritizing problems, synthesizing results and communicating intuition from complicated analyses.

**MKT 590: Managing for Creativity *(3-0) Cr. 3***

This course is designed as a seminar/practicum. You will learn about individual and organizational level factors that contribute to creativity and what managers can do to encourage them. Further, we will discuss the applicability of those factors to business cases and organizations with which you are familiar. The case analyses and exercises are designed to help you bridge the gap between an abstract understanding of what it takes to be creative and how to manage people and resources to make it happen.

[**M E 584: Technology, Globalization and Culture**](https://catalog.iastate.edu/azcourses/m_e/)

***(Dual-listed with M E 484). (Cross-listed with WLC). (3-0) Cr. 3. F.***

*Prereq: junior or senior classification for* [*M E 484*](https://catalog.iastate.edu/search/?P=M%20E%20484)*; graduate classification for* [*M E 584*](https://catalog.iastate.edu/search/?P=M%20E%20584) *Cross-disciplinary examination of the present and future impact of globalization with a focus on* preparing students for leadership roles in diverse professional, social, and cultural contexts. Facilitate an understanding of the threats and opportunities inherent in the globalization process as they are perceived by practicing professionals and articulated in debates on globalization. Use of a digital forum for presenting and analyzing globalization issues by on-campus and off-campus specialists.
 Meets International Perspectives Requirement.

**IND D 560X. Change by Design: Disruptive Innovation** (3-0). Cr. 3.

Exploration and execution of applied projects on civic entrepreneurship, social innovation and design activism. Through the 3 lenses of strategic, systems and critical thinking, it addresses the importance of design for social impact when applied to cases of service-learning, community-engagement, design ethics and transitional design. Change theory and management are central to examine diffusions and disruptions of innovation.

**I E 578X. Human-Centered Design and Manufacturing.** (2-2) Cr. 3. S.

Physical and psychological factors and the use of creativity and 3D printing in the product design lifecycle. Investigation and discussion of creativity, rapid prototyping, machinability design principles, human-centered design approaches, engineering creativity analyses, product design testing, and human factors methods in product design evaluation. Laboratory assignments related to creativity, engineering design, manufacturing, human-centered design, rapid prototyping, product analysis, and ergonomic testing.

[**IND D 532: Design Thinking**](https://catalog.iastate.edu/azcourses/ind_d/)***(3-0) Cr. 3. F.S.****Prereq: Senior or graduate standing in any ISU program, or permission of the instructor.* Exploration of design thinking process, toolkits, and mindsets as creative problem-solving approaches for systems, products, and processes, across diverse contexts. Strategies for problem-solution co-evolution process, with a focus on collaborative and interdisciplinary design to investigate real-world problems and opportunities.

[**FFP 530: Fundamentals of Family Financial Planning**](https://catalog.iastate.edu/azcourses/ffp/) ***(3-0) Cr. 3. F.S.SS.***

The nature and functioning of financial systems, including currencies, markets, monetary and fiscal policy, and supply/demand for land, labor, and capital. Focus is on the impact of global financial interdependence on individuals and families in the U.S. Current and emerging issues, as well as current research and theory relative to financial systems. (on-line course offering via Distance Education).

[**FFP 545: Retirement Planning, Employee Benefits, and the Family**](https://catalog.iastate.edu/azcourses/ffp/) ***(3-0) Cr. 3. F.S.SS.***

Study of micro and macro considerations for retirement planning. Survey of various types of retirement plans, ethical considerations in providing retirement planning services, assessing and forecasting financial needs in retirement, and integration of retirement plans with government benefits (on-line course offering via Distance Education).

[**FFP 570: Professional Practices in Financial Planning**](https://catalog.iastate.edu/azcourses/ffp/) ***(3-0) Cr. 3. F.S.SS.***

Challenges of managing financial planning practices including, but not limited to: business valuation, personnel, marketing, client services, ethics and technological applications. Relying both on a theoretical as well as an applied approach, students analyze case studies that provide relevant, practical exposure to practice management issues, with a strong emphasis on current research findings. (on-line course offering via Distance Education).

[**FFP 583: Investing for the Family's Future**](https://catalog.iastate.edu/azcourses/ffp/) ***(Cross-listed with HD FS). (3-0) Cr. 3. F.***

Evaluation of investment markets for the household. Analysis of how families choose where to put their savings. Emphasis is on using the family's overall financial and economic goals to help inform investment choices. (on-line course offering via Distance Education).

**COMPARISON OF PROPOSED MASTER OF ENTREPRENEURSHIP WITH GRADUATE CERTIFICATE IN ENTREPRENEURSHIP AND INNOVATION (GCEI)**

|  |  |  |
| --- | --- | --- |
|  | **Graduate Certificate in Entrepreneurship & Innovation** | **Master of Entrepreneurship** |
| **Required Credits** | 12 | 30 |
| **Target Students** | Program for current graduate students who desire a specialization along with their graduate degree. It is for those who want a "basic" introduction to both Entrepreneurship and Innovation and entirely online.  | Targeted to college graduates who (a) have a business idea and would like to commercialize it, (b) have an interest in entrepreneurship even if they do not yet have an idea, (c) are working professionals and would like to start their own business, or (d) are interested in taking over their family business; AND who are aware they will need significant advanced academic study in Entrepreneurship in order to accomplish these goals.  |
| **Curriculum Overview** | Provides the basics in Entrepreneurship and Innovation, with one class in each area. Allows students to specialize in one area, which can be Entrepreneurship (e.g., International Entrepreneurship) or in a non-business area such as Design, Veterinary Medicine, or Family Financial Planning.  | Focuses specifically on Entrepreneurship, with its required courses on new venture startup and financial viability. Greater opportunity for elective work in other key and foundational areas of business. Unique opportunity to learn the practical aspects of Entrepreneurship with applied internships, experiential courses, and/or involvement in a startup, where they can learn by doing. |
| **Conferred by** | Graduate College | Ivy College of Business |

Appendix B

Summary of Programs from Benchmarking Study

|  |  |  |  |
| --- | --- | --- | --- |
| School | Degree Program | Total Number of Credits | Experiential Credits |
| Babson | M.S. in Management in Entrepreneurial Leadership | 30 | 3-12 |
| Rice | MBA – Entrepreneurship Concentration | 12 (for Entrepreneurship Concentration) | 1.5-12 |
| Michigan | Master of Entrepreneurship | 36 | 12 |
| Indiana | M.S. in Entrepreneurship & Innovation | 30 | 6 |
| UT Dallas | M.S. in Innovation and Entrepreneurship | 36 | 12 |

Appendix C

Sample Plan of Study



Appendix D

Voting Record

|  |  |  |
| --- | --- | --- |
|  | Votes |  |
| Voting Body | For | Against | Abstain | Date of Vote |
| Department of Management & Entrepreneurship | 27  | 0 | 0 | 1/11/2021  |
| Ivy College of Business Curriculum Committee | 6  | 0 | 0 | 1/25/2021  |
| Ivy College of Business Faculty Approval Vote | 83 | 5 | 0 | 3/12/2021 |
| Graduate Council | 11 | 0 | 0 | 4/21/2021 |
| Faculty Senate Curriculum Committee |  |  |  |  |

**Citations for References in Section 1.b.**

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