



Establish a Post-Baccalaureate Certificate in Innovation and Entrepreneurship (PCC 18013)

PRESENTED BY Janna Bianchini, Chair, Senate Programs, Curricula, and Courses Committee

REVIEW DATES SEC – January 28, 2019 | SENATE – February 5, 2019

VOTING METHOD In a single vote

RELEVANT POLICY/DOCUMENT N/A

NECESSARY APPROVALS Senate, President, University System of Maryland Chancellor, and Maryland Higher Education Commission

ISSUE

The Robert H. Smith School of Business proposes to establish a twelve-credit Post-Baccalaureate Certificate in Innovation and Entrepreneurship. The purpose of this certificate is to offer professional development to practitioners, innovators, and potential entrepreneurs.

Entrepreneurship sits at the heart of job creation in the economy, and improving entrepreneurial outcomes will benefit students and the Maryland economy as a whole. The certificate will be beneficial to people with ideas and/or technological skills but who lack entrepreneurial know-how.

The curriculum will consist of six two-credit courses for a total of twelve credits. The six courses are as follows:

- BUMO 732: Entrepreneurship & New Ventures
- BUMO 752: Strategic Growth for Emerging Companies
- BUSI 771: New Venture Financing
- BUMO 758T: Technology Entrepreneurship
- BUMO 758G: Innovation Management
- BUMO 794: Essentials of Negotiations

The curriculum will focus on key entrepreneurial competencies including opportunity assessment, problem/solution validation, risk mitigation, and venture financing. To address the void of management talent in the venture labor pool, the certificate will also address essential management skills including negotiations, team building, and leadership. The certificate program will culminate in a course (BUMO 758T Technology Entrepreneurship) where students will have the opportunity to create a strategy to develop their own idea.

This proposal was approved by the Graduate School Programs, Curricula, and Courses committee on November 30, 2018, and was approved by the Senate Programs, Curricula, and Courses committee on December 7, 2018.

RECOMMENDATION(S)

The Senate Committee on Programs, Curricula, and Courses recommends that the Senate approve this new certificate program.

COMMITTEE WORK

The committee considered this proposal at its meeting on December 7, 2018. Robert H. Smith School representatives Michael Marcellino, Assistant Dean of MBA & Master of Science programs, and Brent Goldfarb, Associate Professor, presented the proposal and answered questions from the committee. The proposal was unanimously approved by the committee.

ALTERNATIVES

The Senate could decline to approve this new certificate program.

RISKS

If the Senate declines to approve this certificate program, the university will lose an opportunity to provide specialized training in innovation and entrepreneurship for students who do not wish to enroll in a full Master's program in order to receive this training.

FINANCIAL IMPLICATIONS

There are no significant financial implications with this proposal as the courses and administrative processes already exist through Robert H. Smith School of Business master's programs.

University of Maryland PCC
Program/Curriculum/Unit Proposal

PCC Log No: 18013

Program: Certificate in Innovation and Entrepreneurship

Department/Unit:

College/School: Robert H. Smith School of Business

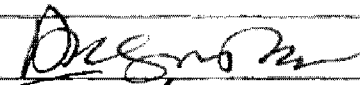
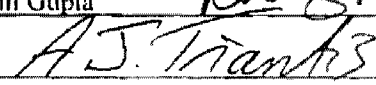
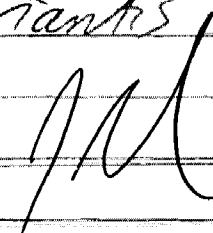
Proposal Contact Person (with email):

Type of Action (check one):

- Curriculum change (includes modifying minors, concentrations/specializations and creating informal specializations)
 - Curriculum change is for an LEP Program
- Rename a program or formal Area of Concentration
- Establish/Discontinue a formal Area of Concentration
- Other:
- Establish a new academic degree/certificate program
- Create an online version of an existing program
- Establish a new minor
- Suspend/Discontinue a degree/certificate program
- Establish a new Master or Certificate of Professional Studies program
 - New Professional Studies program will be administered by Office of Extended Studies

Italics indicate that the proposal must be presented to the full University Senate for consideration.

Approval Signatures - Please print name, sign, and date. For proposals requiring multiple unit approvals, please use additional cover sheet(s).

1. Department Committee Chair _____
2. Department Chair _____
3. College/School PCC Chair Anil Gupta 
4. Dean Alexander J. Triantis 
5. Dean of the Graduate School (if required) _____
6. Chair, Senate PCC Janna Bianchini  12-7-18
7. University Senate Chair (if required) _____
8. Senior Vice President and Provost _____

Instructions:

When approved by the dean of the college or school, please send the proposal and signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus-5031, and email the proposal document as an MSWord attachment to pcc-submissions@umd.edu.

Summary of Proposed Action (use additional sheet if necessary):

The Robert H Smith School of Business is proposing a new Post-Baccalaureate Certificate in Innovation & Entrepreneurship. The purpose of this certificate is to offer professional development to practitioners and innovators and potential entrepreneurs. Entrepreneurship sits at the heart of job creation in the economy, and improving entrepreneurial outcomes will benefit students and the Maryland economy as a whole. The certificate will target knowledge workers interested in integrating into the entrepreneurial ecosystem or seeking to increase entrepreneurial skills for innovation in their jobs in the greater DC and Baltimore metro areas. Students in professional and technical programs across the university of Maryland system, including students in UMB medical and pharmacy schools, engineering, and computer science. The 12 credit format will allow certification in a single semester. The ~~reputation~~ of the Dingman Center for Entrepreneurship will facilitate mentorship and practical business advice for certificate students. relationships

Unit Code(s) (to be entered by the Office of Academic Planning and Programs):

In order to complete this form, you will need to copy this template to your own document, then complete, print, and submit this proposal with the [PCC Cover Sheet](#)

Program: **CERTIFICATE IN INNOVATION & ENTREPRENEURSHIP**

Date of Proposal:

Start Term for New Program: **Proposed Initiation Date: Fall 2019**

A new degree program proposal will need to be approved not just by campus but also by the University System of Maryland (USM) Board of Regents and the Maryland Higher Education Commission (MHEC). New certificate programs need to be approved by the USM Chancellor and MHEC. The following prompts are based on academic policies for programs and reflect campus requirements and MHEC requirements. The prompts also include questions frequently asked by review committees. See http://mhec.maryland.gov/institutions_training/Pages/acadaff/AcadProgInstApprovals/NewAcademicProgramProposals.aspx for more information about MHEC requirements. Please feel free to add additional information at the end of this document or in a separate appendix.

Mission and Purpose

1. Describe the program and explain how it fits the institutional mission statement and planning priorities. The University Mission Statement and Strategic Plan can be found on this site: <https://www.umd.edu/history-and-mission>.

The entrepreneurship certificate will target knowledge workers interested in integrating into the entrepreneurial ecosystem or seeking to increase entrepreneurial skills for innovation in their jobs in the greater DC and Baltimore metro areas. We expect this to appeal to students in professional and technical programs across the university of Maryland system, including students in UMB medical and pharmacy schools, engineering, and computer science. The 12 credit format will allow certification in a single semester (14-15 weeks) on a full-time basis or over two semesters (Fall and Spring) on a part-time basis (4-8 credits per semester).

Program Characteristics

2. Provide the catalog description of the proposed program. As part of the description, please indicate any areas of concentration or specializations that will be offered.

The Robert H Smith School of Business is proposing a new Post-Baccalaureate Certificate in Innovation & Entrepreneurship. The purpose of this certificate is to offer professional development to practitioners and innovators and potential entrepreneurs. Entrepreneurship sits at the heart of job creation in the economy, and improving entrepreneurial outcomes will benefit students and the Maryland economy as a whole. The certificate will be beneficial to people with ideas and / or technological skills but who lack entrepreneurial know-how.

3. What are the educational objectives of the program?

The course sequence will consist of 6 courses that are each 2 credits, for a total of twelve credits. The program will be offered to students with the ability to complete the program in one semester or in two semesters. The content of these courses will enable better decision making and outcomes in an entrepreneurial environment. Within the program students will have opportunities to develop their business ideas and interact with the network of the Dingman Center for Entrepreneurship.

Upon completion, the participants will receive a Post-Baccalaureate Certificate in Innovation & Entrepreneurship from the University of Maryland. Completers will also have the option of transferring these credits towards a MS in Business and Management or a Master of Business Administration (MBA).

Students seeking both a certificate and a Masters degree offered by the Smith School (for instance the MS in Business and Management, the Master of Business Administration) may double count course credits towards both the certificate and the Masters degree. A total of thirty percent of the total credits taken towards the Masters degree may be double counted towards both the certificate and the Masters degree. So a student enrolled in both the certificate program and the MS in Business and Management can count a total of nine credits (30% of the 30 credits in the MS degree) towards the certificate. A student enrolled in the MBA program can count all twelve of the certificate course credits towards the MBA degree. Only one certificate program can be double counted towards a Masters degree. Certificate course credits cannot be counted towards the completion of another certificate program.

4. Describe any selective admissions policy or special criteria for students selecting this program.

Applicants to the Entrepreneurship certificate program must have completed all of the requirements for a baccalaureate degree prior to their acceptance into the program with a minimum GPA of 3.0. A complete online application form that includes a written essay articulating qualifications and motivation for pursuing advanced education, one letter of recommendation from supervisors or from professors competent to judge the applicant's probability of success in graduate school will also be required.

In addition, an admissions interview may be required. After initial screening, the Admissions Office may select candidates for interviews which may be done in person or by telephone. Proof of English language proficiency (TOEFL or IELTS official scores) is also required unless the applicant has received an undergraduate or graduate degree from a select list of countries. For international student needing an F1 visa, a completed certification of finance form and supporting financial documentation are required.

In addition to Graduate School requirements, admission decisions for the Entrepreneurship certificate program will be based on the quality of previous undergraduate and graduate coursework (if applicable), the relevance of prior work and research experience, and the congruence of professional goals with those of the program. Students should submit application materials at least 30 days prior to the start date of the program.

While some students in the certificate program may already have MBA degree, the ever-changing nature of the business environment for entrepreneurship would still necessitate continuing education in this topic. The faculty of the Smith school have experience teaching courses with heterogeneous student groups. In fact the variation in experience enhances the learning outcomes because it facilitates discussion relevant class materials by those who have had practical experience or prior exposure to business knowledge.

5. Indicate the course requirements with course numbers, titles and credits. If applicable, indicate if any course will also count for a general education requirement. In an appendix, provide the course catalog information (credits, description, prerequisites, etc.) for all of the courses. Note that suffixed "selected" or "special" topics courses should be avoided. If suffixed-selected or special topics courses are offered regularly in the new program, you should make the courses permanent. Also, please review the basic requirements of [degree programs](#) or [certificate programs](#) to ensure that they meet the minimum policy requirements.

Please note: new courses or modifications to courses need to be submitted through the Testudo Curriculum Management system and will need to follow the normal VPAC course proposal review process. You may submit individual course changes to VPAC concurrently with the PCC proposal; however, the course changes may be held depending on the outcome of the PCC proposal.

BUMO 732: Entrepreneurship & New Ventures

BUMO 752: Strategic Growth for Emerging Companies

BUSI 771: New Venture Financing

BUMO 758T: Technology Entrepreneurship (permanent number being sought)

BUMO 758G: Innovation Management (permanent number being sought)

BUMO 794: Essentials of Negotiations

6. Summarize the factors that were considered in developing the proposed curriculum (such as recommendations of advisory or other groups, articulated workforce needs, standards set by disciplinary associations or specialized-accrediting groups, etc.).

The certificate program will focus on key entrepreneurial competencies including opportunity assessment, problem/solution validation, risk mitigation, venture financing, etc. To address the void of management talent in the venture labor pool, the certificate will also address essential management skills including negotiations, team building and leadership. The certificate program will culminate in a course (BUMO 758T Technology Entrepreneurship) where students will have the opportunity to develop a strategy to develop their own entrepreneurial idea.

7. Sample plan. Provide a term by term sample plan that shows how a hypothetical student would progress through the program to completion. It should be clear the length of time it will take for a typical student to graduate. For undergraduate programs, this should be the *four-year plan*.

Below is a table showing how a student can complete the required coursework in a single semester.

**Student Schedule for the certificate if taken full-time. This coursework can be completed in a single semester. Students can also choose to take the program over a year on a part-time basis. **

One Semester Option:

Term I (7 weeks)	Term II (7 weeks)
BUMO 758G: Innovation Management	BUMO 758T: Technology Entrepreneurship
BUMO 732: Entrepreneurship & New Ventures	BUMO 752: Strategic Growth for Emerging Companies
BUMO 794: Essentials of Negotiations	BUSI 771: New Venture Financing

Two Semester Option:

FALL SEMESTER	SPRING SEMESTER
<p>Term A: BUMO 758G: Innovation Management</p> <p>BUMO 732: Entrepreneurship & New Ventures</p> <p>Term B: BUSI 771: New Venture Financing</p> <p>BUMO 794: Essentials of Negotiations</p>	<p>Term C: BUMO 752: Strategic Growth for Emerging Companies</p> <p>Term D: BUMO 758T: Technology Entrepreneurship</p>

8. Indicate whether the program will be offered in a non-standard delivery format, such as online delivery, off-campus, or through non-standard terms. Please note that MHEC requires a separate proposal for off-campus delivery. If the program will be offered in non-standard terms, describe the term structure and whether the Office of the Registrar and the Office of International Scholar and Student Services have been notified and support the proposal. If the program will be offered exclusively online or will have both a face-to-face and online version of the program, please complete this additional form and add as an appendix:

<https://docs.google.com/document/d/1ojpUBt4mAWINPCiQNzZ48UH68zGPYj31TPgEOfW3q1E/>

To accommodate students from around the metro area, the classes will be held in person with some content being delivered online. In person meetings will be offered on the UMCP campus, at our DC location in the Ronald

Reagan Building and International Trade Center, our Baltimore facility in the University of Maryland BioPark, or our facility at The Universities at Shady Grove. Classes will be held in the late afternoon, evening or during weekends to accommodate the schedules of our working professional students.

9. For Master's degree programs, describe the thesis requirement and/or the non-thesis requirement.

N/A

10. List the intended student learning outcomes. In an appendix, provide the plan for assessing these outcomes.

Learning Outcome 1: The Entrepreneurial Skillset

- Reach innovative/unconventional solutions by iteratively proposing ideas/strategies, receiving feedback, incorporating feedback and learning from failed approaches;
- Collaborate with others on developing an innovative analysis, project or solution, by incorporating different viewpoints and experiences;
- Develop business models that incorporate feedback from customers and pivot based upon the needs of the market;
- Present the business idea to investors or other outside stakeholders;
- Develop a profitable minimal viable product (MVP).

Learning Outcome 2: Entrepreneurial Growth

- Understand basics of financial modeling based on product, service or web business
- Develop 3 year financial projections based on key revenue & cost assumptions
- Determine risk tolerance and personal funding capabilities based on startup funding needs and any projected losses
- Understand founding documents, equity structures, operating agreements and capitalization.
- Understand various mechanisms for new venture finance.
- Understand how to plan and structure a business for growth.

Learning Outcome 3: Strategic Thinking in Entrepreneurial Environments

- Develop skills for decision making in ambiguous environments.
- Develop skills to learn from and enhance social capital and networks.

See the **Appendix** for the measures, criterion and method of assessment of the three learning objectives.

11. Identify specific actions and strategies that will be utilized to recruit and retain a diverse student body.

The Robert H. Smith School of Business community is multifaceted at every level – students, staff and faculty represent a diverse blend of backgrounds, nationalities, ethnicities and experiences. About a dozen Smith School

and student clubs are focused on bringing members together who have similar interests in gender, nationality, religion, and sexual orientation.

To attract the most diverse population possible for the proposed Innovation and Entrepreneurship certificate program, Smith School recruiting staff will focus on domestic efforts. These efforts will be targeted at recruiting U.S. minorities and American women of all ethnicities.

Current efforts include:

- Representing Masters programs in U.S. MBA and Masters Fairs and Tours
 - Representing Masters programs in International MBA and Masters Fairs and Tours
 - Online Chats
 - U.S. College Visits
 - International College Visits
 - GMASS-based Mailings
 - GRE-based Mailings
 - Direct Mail
 - Email Campaigns
 - Outreach to College and Campus Organizations and Clubs
 - Participating in Career/Graduate Study Panels or Workshops
 - Presentations at Professional Conferences
 - Creation of "Leap Your Career Forward" for Current UMD Students Looking At MBA and Masters Study Post-Undergraduate Studies (An Annual Event)
 - Advertising in UMD Campus Newspapers
 - Masters Only Education Fairs (Fall And Spring) Throughout the U.S.
 - Participation in a Masters-focused Business School Alliance
 - Participant in Graduate Business Education Events Targeted for Underrepresented Populations, Particularly U.S. Minorities and Women
 - Including Master's Level Programming in Marketing Content Targeted to U.S. Military/Veterans
 - Outreach to College Organizations in the Washington, D.C. Area
 - Enhancement of Website for All Masters Programs
 - Inclusion of Spotlight and Vignettes of Masters Alumni and Current Students who Reflect Diversity
 - Participation in Events Targeted for Women Seeking Graduate Study (General And Non-MBA Based Events)
- Social Media and Online Advertising within U.S. Markets

Relationship to Other Units or Institutions

12. If a required or recommended course is offered by another department, discuss how the additional students will not unduly burden that department's faculty and resources. Discuss any other potential impacts on another department, such as academic content that may significantly overlap with existing programs. Use space below for any comments, otherwise add supporting correspondence as an appendix.

N/A

13. Accreditation and Licensure. Will program need to be accredited? If so, indicate the accrediting agency. Also, indicate if students will expect to be licensed or certified in order to engage in or be successful in the program's target occupation.

N/A

14. Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

N/A

Faculty and Organization

15. Faculty and organization. Who will provide academic direction and oversight for the program? As an appendix, please indicate the faculty involved in the program. Include their titles, credentials, and courses they may teach for the program.

As one of the top academic entrepreneurship and strategy departments in the world, the Management and Organization faculty at the University of Maryland, College Park, is positioned to offer this post-baccalaureate certificate program. This, together with, the quality and reputation of the Dingman Center for Entrepreneurship will facilitate mentorship and practical business advice for certificate students.

Resource Needs and Sources

16. Each new program is required to have a library assessment in order to determine any new library resources that may be required. Please contact your departmental/programmatic library liaison or Daniel Mack at dmack@umd.edu, Associate Dean of Collections, to request a library assessment that will be added as an appendix.

17. Discuss the adequacy of physical facilities, infrastructure and instructional equipment.

Launching this certificate within the existing Part Time MBA program will allow the Robert H. Smith School of Business to utilize its physical facilities, infrastructure and instructional equipment available in the off-site locations of the Ronald Reagan Building campus in Washington, D.C., the Universities at Shady Grove campus in Rockville, Md and/or the University of Maryland Bio Park campus in Baltimore, Md.

18. Discuss the instructional resources (faculty, staff, and teaching assistants) that will be needed to cover new courses or needed additional sections of existing courses to be taught. Indicate the source of resources for covering these costs.

All of the courses being offered for this certificate will be drawn from existing Part Time MBA program courses. All courses will be offered at our DC campus but some may be offered at our other locations as well. Faculty who teach courses in this program shall be drawn from the faculty of the Robert H. Smith School of Business, particularly the Management and Organizations Department. The Management and Organizations department of the Robert H Smith School of Business currently has 31 FTE faculty. 21 of these are full-time tenure / tenure track. All of these faculty have doctoral degrees in Economics, Strategic Management, or Organizational Behavior, Psychology, Sociology, History or Political Science.

19. Discuss the administrative and advising resources that will be needed for the program. Indicate the source of resources for covering these costs.

Primary oversight of this program will be provided by the Dingman Center Academic Director A committee of faculty members has been created to address issues including admissions, academic policies, student activities, and internship / placement opportunities. The program would also be overseen by the chair of the Management and Organizations department and the Dean's office. The Robert H. Smith School of Business will use existing Part Time MBA program resources.

20. Use the Maryland Higher Education Commission (MHEC) commission financial tables to describe the program's financial plan for the next five years:
<https://docs.google.com/spreadsheets/d/1V6iSZG05edMitWP6CAOXjCoGO58Gf6VXxPaacKfrhZ4/edit#gid=0>. Add these tables as attachments. Use the space below for any additional comments on program funding.

Implications for the State (Additional Information Required by MHEC and the Board of Regents)

If the proposed program is for a Post-Baccalaureate Certificate that is derived entirely from existing courses within an existing Master's degree program, then you **only** need to respond to prompts 21 (on market demand) and 24 (curriculum of current master's degree program).

21. Explain how there is a compelling regional or statewide need for the program. Argument for need may be based on the need for the advancement of knowledge and/or societal needs, including the need for "expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education." Also, explain how need is consistent with the [Maryland State Plan for Postsecondary Education](#).

The Post-Baccalaureate Certificate will meet the needs of practitioners looking to enhance their skills in Entrepreneurship and participate in the innovation economy. The demand for entrepreneurial skills is at an all-time high, be it to start new firms or to innovate within existing firms. Discussions with representatives from professional programs such as the University of Maryland School of Pharmacy suggest a need for graduate-level training in entrepreneurship for our science and engineering workforce. Graduate certificates are also offered locally at the Kogod School at American University, and in other schools such as Georgia Tech, Harvard Extension and Duke Continuing Studies. We believe we can effectively compete in this market.

22. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program. Possible sources of information include industry or disciplinary studies on job market, the USBLS [Occupational Outlook Handbook](#), or Maryland state [Occupational and Industry Projections](#) over the next five years. Also, provide information on the existing supply of graduates in similar programs in the state (use MHEC's Office of Research and Policy Analysis [webpage](#) for Annual Reports on Enrollment by Program) and discuss how future demand for graduates will exceed the existing supply. As part of this analysis, indicate the anticipated number of students your program will graduate per year at steady state.

As the entrepreneurial and high-tech sectors expand in Maryland and across the country, a well-developed entrepreneurial and innovation management skill set will be necessary to achieve success. Entrepreneurial firms often fail due to poor management choices, poor strategic choices or poor mentoring. This entrepreneurship program will focus on the entrepreneurial skillsets necessary to enact new ideas and turn them into thriving businesses including entrepreneurial thinking, leadership and negotiations, designing organizations, managing innovation, strategic positioning, and financing new firms. A particular emphasis will be placed on entrepreneurship in high technology sectors. Entrepreneurial skills are necessary to promote the success of the entrepreneurial economy. For example, Baltimore is losing startups to Boston, especially in healthcare because of a lack of managerial talent. An entrepreneurship certificate will help create skilled labor to work throughout the entrepreneurial ecosystem in areas that most matter to the state, including biotechnology and cybersecurity.

23. Identify similar programs in the state. Discuss any differences between the proposed program and existing programs. Explain how your program will not result in an unreasonable duplication of an existing program (you can base this argument on program differences or market demand for graduates). The MHEC website can be used to find academic programs operating in the state: http://mhec.maryland.gov/institutions_training/pages/HEPrograms.aspx.

N/A

24. Discuss the possible impact on Historically Black Institutions (HBIs) in the state. Will the program affect any existing programs at Maryland HBIs? Will the program impact the uniqueness or identity of a Maryland HBI?

25. For new Post-Baccalaureate Certificates derived from existing master's programs only, include the complete curriculum of the existing master's program.

MBA Curriculum - CORE:

BUSI 610 Introduction to Financial Accounting
BUSI 611 Managerial Accounting
BUSI 621 Strategic and Transformation IT
BUSI 630 Data Models and Decisions
BUSI 634 Operations Management
BUSI 640 Financial Management
BUSI 650 Marketing Management
BUSI 664 Leadership & Teamwork
BUSI 681 Managerial Econ & Public Policy
BUSI 683 The Global Economic Environment
BUSI 690 Strategic Management
(22 core credits)

ELECTIVES: The MBA program has many electives in areas such as Finance, Management and Organization, Logistics and Supply Chain Management, Accounting, Marketing and Decision and Information Technologies. Students in this program will choose electives within any of these departments.

The courses being offered for the Innovation and Entrepreneurship certificate are offered as electives in this program with all courses being offered in our Washington DC campus.

Appendix: Course and Catalog Descriptions

BUMO 732: Entrepreneurship & New Ventures

2 Credits

Provides an introduction to important tools and skills necessary to create and grow a successful new venture. Integrates research findings from a range of different practical and intellectual perspectives, including psychology, sociology, economics, strategic management, and history into practical, hands on lessons for an entrepreneur. Class projects provide the foundations for new, real businesses.

BUMO 752: Strategic Growth for Emerging Companies

2 Credits

Offers practical management tools that are needed to build a new venture into a significant enterprise. The competencies, strategies and structures of successful high performance businesses are studied through cases, videos and guest lecturers. Topics include leadership, internal growth strategies, merger, acquisition and franchising.

BUSI 771: New Venture Financing

2 Credits

This practical course is designed primarily to improve the student’s ability to finance a new or growing venture. Students learn basic accounting including income statement and balance sheets. Basic capital structure of firms and time value of money and financial modeling. The advantages and disadvantages of the sources of new venture capital are studied from the entrepreneur’s viewpoint. Core topics include bootstrapping, government loans and grants, crowdfunding, commercial banking, angels, middle market private placements, DPOs, venture capital, venture banking, and small IPOs. A review of financial terms, financial statements, capital structure, valuation, deal structure, due diligence, and term sheets is provided.

BUMO 758T: Technology Entrepreneurship

2 Credits

This course provides an integrated strategy framework for innovation-based entrepreneurs. The course is structured to provide a deep understanding of the core strategic choices facing start-up innovators, a synthetic framework for the development and implementation of entrepreneurial strategy in dynamic environments, and the ability to scale those ventures over time. A central theme of the course is that, to achieve competitive advantage, technology entrepreneurs must balance the process of experimentation and learning inherent to entrepreneurship with the selection and implementation of a strategy that establishes competitive advantage. The course identifies the key choices entrepreneurs make to take advantage of a novel opportunity and the logic of particular strategic commitments and positions that allow entrepreneurs to establish competitive advantage.

The course combines interactive lectures, case analyses, and direct engagement with start-ups. The course draws on a rapidly emerging body of research in entrepreneurship, strategy, and economics that moves beyond the “one size fits all” approach to start-ups and instead focuses on the key choices that founders face as they start and scale their business. The cases and assignments offer an opportunity to integrate and apply the entrepreneurial strategy framework in a practical way, and draws from a diverse range of industries and settings

BUMO 758G: Innovation Management

2 Credits

The course is designed to give students a broad view on issues related to the management of innovations. It covers both external dynamics of innovations and internal management activities, with special emphasis on knowledge development and learning processes within organizations.

BUMO 794: Essentials of Negotiations

2 Credits

This course provides skills necessary for successful negotiations and leadership skills. Using a series of simulations and debriefings, within the broad spectrum of different kinds of negotiations, this course will give students the opportunity to develop their negotiation skills and be able to evaluate different negotiation contexts that can be applied in the workplace.

Appendix: Learning Outcomes and Assessment

Learning Outcome 1: the Entrepreneurial Skillset.

- Reach innovative/unconventional solutions by iteratively proposing ideas/strategies, receiving feedback, incorporating feedback and learning from failed approaches;

- Collaborate with others on developing an innovative analysis, project or solution, by incorporating different viewpoints and experiences;
- Develop business models that incorporate feedback from customers and pivot based upon the needs of the market;
- Present the business idea to investors or other outside stakeholders;
- Develop a profitable minimal viable product (MVP).

Learning Outcome 2: Entrepreneurial Growth. *Smith certificate students demonstrate a fluency in obtaining resources for new enterprise*

- Understand basics of financial modeling based on product, service or web business
- Develop 3 year financial projections based on key revenue & cost assumptions
- Determine risk tolerance and personal funding capabilities based on startup funding needs and any projected losses
- Understand founding documents, equity structures, operating agreements and capitalization.
- Understand various mechanisms for new venture finance.
- Understand how to plan and structure a business for growth.

Learning Outcome 3: Strategic Thinking in Entrepreneurial Environments.

- Develop skills for decision making in ambiguous environments.
- Develop skills to learn from and enhance social capital and networks.

For all learning objectives, the measures, criterion and method of assessment are:

Measure:	Students will be evaluated based on project based work in each course. Projects are designed to assess how well theoretical concepts are applied to entrepreneurial settings.
Criterion:	At least 90% of students will receive an average rating of “Meets Standards” or better on projects. The Academic Director will meet with students rated below “Meets Standards” to help improve their performance or determine their continued participation in the program.
Assessment:	Every Year, starting in the 2018-2019 academic year.

Appendix: Faculty

Rajshree Agrawal, Rudolph P. Lamone Chair and Professor in Entrepreneurship

Teaching / Research Focus: Entrepreneurship, High Technology Industries, Labor Mobility

Course(s): BUMO 732, Entrepreneurship & New Ventures; BUMO 758T, Technology Entrepreneurship; BUMO 758G, Innovation Management

Christine Beckman, Professor

Teaching / Research Focus: organizational learning, interorganizational networks, and entrepreneurship

Course(s): BUMO 732, Entrepreneurship & New Ventures;

Serguey Braginsky, Associate Professor

Teaching / Research Focus: industry evolution, entrepreneurship, innovation, growth and development

Course(s): BUMO 732, Entrepreneurship & New Ventures; BUMO 758G, Innovation Management

Rellie Derfler-Rozin, Ph.D., Assistant Professor.

Teaching / Research Focus: decision making in the social context

Course: BUMO 794: Essentials of Negotiations

Waverly Ding, Ph.D., Associate Professor

Teaching / Research Focus: Entrepreneurship, Strategy, Technology Commercialization

Courses: BUMO 732: Entrepreneurship & New Ventures, BUMO 758T: Technology Entrepreneurship, BUMO 758G: Innovation Management

Brent Goldfarb, Ph.D., Associate Professor, Academic Director Dingman Center for Entrepreneurship

Teaching / Research Focus: Entrepreneurship, High Technology Industries

Course(s): BUMO 732, Entrepreneurship & New Ventures; BUMO 758T, Technology Entrepreneurship; BUMO 758G, Innovation Management, BUSI 771: New Venture Financing, BUMO 752: Strategic Growth for Emerging Companies

Anil K. Gupta, Ph. D., Michael D. Dingman Chair in Strategy and Entrepreneurship

Teaching / Research Focus: Emerging Markets (especially China and India), Frugal Innovation, Global Strategy & Organization, Corporate Innovation and Entrepreneurship

Courses: BUMO 732, Entrepreneurship & New Ventures; BUMO 758T, Technology Entrepreneurship; BUMO 758G, Innovation Management, BUSI 771: New Venture Financing

David A. Kirsch, Ph.D., Associate Professor

Teaching / Research Focus: History of modern technology, Entrepreneurial and technological failure, Internet Technology Entrepreneurship, Global environmental management systems

Courses: BUMO 732, Entrepreneurship & New Ventures; BUMO 758T, Technology Entrepreneurship; BUMO 758G, Innovation Management, BUMO 752: Strategic Growth for Emerging Companies, BUSI 771 New Venture Financing

David Kressler, Ph.D., Lecturer

Teaching / Research Focus: Business Strategy, Early Stage Entrepreneurship

Courses: BUMO 732, Entrepreneurship & New Ventures; BUMO 758T, Technology Entrepreneurship; BUMO 758G, Innovation Management, BUMO 752: Strategic Growth for Emerging Companies, BUSI 771 New Venture Financing

Gosia Langa, Ph. D., Lecturer

Teaching / Research Focus: Negotiations and Negotiation Process, Leadership Coaching and Development, Personality and Individual Differences focusing on Emotional Intelligence and Core Self-Evaluations , Cross-Cultural Management

Courses: BUMO 794 Essentials of Negotiations

Hui Lao, Ph. D., Smith Dean’s Professor in Leadership and Management

Teaching / Research Focus: Leadership, Creativity and Proactivity, Cross-Cultural Management

Courses: BUMO 794 Essentials of Negotiations

Jennifer Carson Marr, Ph. D., Assistant Professor

Teaching / Research Focus: Dynamics of status hierarchies and motivational goals.

Courses: BUMO 794 Essentials of Negotiations

Paulo Procho, Ph. D., Clinical Professor

Teaching / Research Focus: knowledge management, organizational routines, cross-border management and manufacturing strategy

Courses: BUMO 758T Technology Entrepreneurship, BUMO758G Innovation Management

Oliver Schlacke, Ph. D., Clinical Professor

Teaching / Research Focus: Innovation Strategy, Scenario Planning, R&D Portfolio Optimization, Early Stages of Venture Creation, Business Creativity

Courses: BUMO 732, Entrepreneurship & New Ventures; BUMO 758T, Technology Entrepreneurship; BUMO 758G, Innovation Management, BUMO 752: Strategic Growth for Emerging Companies, BUMO 758G: Innovation Management, BUSI 771 New Venture Financing

Subra Tangirala, Ph.D., Associate Professor

Teaching / Research Focus: interpersonal communication in organizations.

Courses: BUMO 794: Essentials of Negotiations

Vijaya Venkataramani, Ph.D., Associate Professor

Teaching / Research Focus: informal social relationships and social networks at work influence leadership, creativity, and discretionary employee behaviors in organizations

Courses: BUMO 794: Essentials of Negotiations