

Date: \_\_\_\_\_

**REQUESTOR CONTACT INFORMATION**

Name \_\_\_\_\_ Campus \_\_\_\_\_  
 Title \_\_\_\_\_ Email \_\_\_\_\_  
 Office/Dept \_\_\_\_\_ Phone \_\_\_\_\_

**NEW PROGRAM CODE TO CREATE**

Institution \_\_\_\_\_ Campus \_\_\_\_\_  
 Level \_\_\_\_\_ Effective Term \_\_\_\_\_

|                    | Code<br>(Max. Characters) | Description | Check if requesting new code:                     |
|--------------------|---------------------------|-------------|---|
| College            | (2) _____                 | _____       | <input type="checkbox"/> See Banner form STV_COLL |
| Department         | (4) _____                 | _____       | <input type="checkbox"/> See Banner form STV_DEPT |
| Degree/Certificate | (6) _____                 | _____       | <input type="checkbox"/> See Banner form STV_DEGC |
| Major              | (4) _____                 | _____       | <input type="checkbox"/> See Banner form STV_MAJR |
| Concentration      | (4) _____                 | _____       | <input type="checkbox"/> See Banner form STV_MAJR |
| Minor              | (4) _____                 | _____       | <input type="checkbox"/> See Banner form STV_MAJR |

If a similar major/concentration code exists in Banner, please list the code: \_\_\_\_\_

Justification to warrant a new major/concentration code similar to an existing major/concentration code: \_\_\_\_\_

Is this major/concentration code being used the same way at the other UH campuses?  Yes  No

Should this program be available for applicants to select as their planned course of study on the online application? *If yes, student may select the code as their only program of study.*  Yes  No

**RULES PERTAINING TO FINANCIAL AID AND 150% DIRECT SUBSIDIZED LOAN LIMIT LEGISLATION**

Is 50% or greater of the classes in this program offered at a location other than the Home Campus?  Yes  No

Is this program/major/certificate financial aid eligible?  Yes  No

Does this certificate qualify as a Gainful Employment Program (Title IV-eligible certificate program)?  Yes  No

See <http://www.ifap.ed.gov/GainfulEmploymentInfo/index.html>

**Program Length**

(In academic years; decimals are acceptable.) The length of the program should match what is published by the campus in any online and/or written publication.

Special Program Designations  A  B  N  P  T  U

See Special Program Designations Code Definitions on IRAO Program Code Request webpage

Required Terms of Enrollment  Fall  Spring  Summer  Extended

**IRAO USE ONLY: DATE RECEIVED**

**EXISTING PROGRAM CODE TO REPLACE**

Program Code \_\_\_\_\_ Program Description \_\_\_\_\_  
Institution \_\_\_\_\_ Campus \_\_\_\_\_  
College \_\_\_\_\_ Department \_\_\_\_\_  
Level \_\_\_\_\_

Are current students "grandfathered" under the program code?  Yes  No  
Should the old program code be available for use in Banner?  Yes  No

Effective  , old program code will no longer be available to admit or recruit students.  
Term (ie. Fall 2014)

*This will turn off the online application, recruitment (effects Banner forms SRASUMI and SRAQUIK) and admissions (effects Banner forms SAADCRV, SAAADMS, SAASUMI, SAAQUIK, and SAAQUAN) Banner modules.*

Effective  , old program code will no longer be available to award degree to students.  
Term (ie. Fall 2014)

*This will turn off the general student (effects Banner form SGASTDN) and academic history (effects Banner form SHADEGR) Banner modules.*

**ADDITIONAL COMMENTS**

**ATTACHMENTS**

**BOR Approved:** Associate, Bachelor and Graduate Degrees, and sole credential certificates

- BOR Meeting Minutes & Supporting Documents OR Memo with President's Approval, with cc to Vice President for Academic Planning and Policy.
- Curriculum

**Chancellor Approved:** Certificates (eg. Certificate of Achievements, Certificates of Competence, Subject Certificates, Academic Subject Certificates) & Associate in Technical Studies (ATS) Degree

- Memo from Chancellor to Vice President for Academic Planning and Policy regarding program action.
- Curriculum

**VERIFICATIONS**

*By signing below, I verify that I have reviewed and confirm the above information that is pertinent to my position.*

Registrar  
(Print Name)

Financial Aid Officer  
(Print Name)

For Community Colleges,  
verification of consultation with  
OVPCC Academic Affairs:

Tammi Oyadomari-Chun

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature

Date

Signature

Date

Signature

Date



**Department of Finance**  
 2404 Maile Way  
 Honolulu, Hawai'i 96822 USA  
 Phone: (808) 956-6675  
 Fax: (808) 956-9887  
 Web: shidler.hawaii.edu/fin

August 18, 2022

**MEMORANDUM**

**TO:** David Lassner  
President

**VIA:** Debora Halbert  
Vice President for Academic Strategy

Digitally signed by Debora Halbert  
Date: 2022.10.24 08:33:41 -10'00'

**VIA:** Michael Bruno  
Provost

**Michael Bruno**

Digitally signed by Michael Bruno  
Date: 2022.10.18 13:27:10 -10'00'

**VIA:** Laura E. Lyons  
Interim Vice Provost for Academic Excellence

**VIA:** Krystyna Aune  
Dean, Graduate Division

**VIA:** V. Vance Roley

**V. Vance Roley**

Digitally signed by V. Vance Roley  
Date: 2022.08.18 09:18:41 -10'00'

Dean and First Hawaiian Bank Chair of Leadership and Management

**FROM:** Hua Chen

First Insurance Company of Hawaii Distinguished Professor  
and Faculty Director of the Master of Science in Finance (MSF) Program

**SUBJECT:** Approval of the CIP Code Change for the Master of Science in Finance (MSF) Program

**SPECIFIC ACTION REQUESTED:**

It is requested that the CIP code of the MSF program be changed from 52.0801 (Finance, General) to 27.0305 (Financial Mathematics), to more accurately reflect its Science, Technology, Engineering, and Mathematics (STEM) contents.

**RECOMMENDED EFFECTIVE DATE:**

Effective Spring 2023

**ADDITIONAL COST:**

No additional resources are needed.

PURPOSE:

With the expansion of the MSF program, it has become increasingly important to identify it with a CIP code which can accurately reflect its STEM content. The change in the CIP code speaks to prospective students, employers, and the public about the nature of our program. The rigorousness of our program can greatly help our recruitment and placement efforts. It will, in turn, benefit the Shidler College of Business and the University by enhancing our reputation, and the finance industry in Hawai'i by helping attract young talent.

BACKGROUND:

The MSF program in the Finance Department of the Shidler College of Business was approved by the Board of Regents on March 28, 2019. Please see Attachment 1 for the approved MSF program proposal. Since then, we have welcomed three cohorts of students into the program, with 18 students in the first cohort (Spring 2020/Fall 2020 enrollment), 24 students in the second cohort (Spring 2021/Fall 2021 enrollment), and 24 students in the third cohort (Spring 2022/Fall 2022 enrollment).

There are many specialized master programs in Finance at peer and aspirational institutions which have adopted the STEM CIP code – 27.0305 (Financial Mathematics). We attached an extensive list of such finance master programs in Attachment 2. The program curriculum at these institutions is similar to our MSF program, which provides further evidence that this request is aligned with national trends and practices. In Attachment 3, we present the courses included in our program curriculum along with the indication of courses that are STEM, which surpasses the 50 percent threshold. In Attachment 4, we provide examples of courses from selected MSF programs at other institutions to demonstrate the alignment between these programs and ours.

As many finance master's programs in the nation are adopting this STEM CIP code, it is critical for us to remain competitive and able to recruit strong candidates to the program while increasing the employment prospects of our future graduates. In light of the reasons mentioned above, we respectfully request that you approve the CIP code of the MSF program to be changed to 27.0305 (Financial Mathematics).

ACTION RECOMMENDED:

It is recommended that the CIP code of the MSF program be changed from 52.0801 (Finance, General) to 27.0305 (Financial Mathematics), to more accurately reflect its Science, Technology, Engineering, and Mathematics (STEM) contents.

ATTACHMENTS

1. BOR-Approved MSF program proposal
2. List of Universities with MSF Programs Adopting the CIP Code 27.0305
3. Curriculum of the Shidler MSF Program
4. Comparison of Curriculum between Selected MSF Programs and Shidler MSF Program

Approved/Disapproved:

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David Lassner  
President

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Date

Cc:

April Nozomi Quinn, Director of Program Development and Review  
Pheng Xiong, University Registrar

**Attachment 1: PROPOSAL**  
**Master of Science in Finance**

**I. Program Purpose and Outcomes**

**A. Describe the purpose of the proposed program in terms of meeting student, community or State needs**

The proposed Master of Science in Finance (MSF) is a full-time, one-year, non-thesis, Plan B finance graduate degree program that requires 30 credits to complete. Developed and operated by the Shidler College of Business Department of Financial Economics and Institutions (FEI) in cooperation with the Executive Education unit within the College, the program will provide students in-depth knowledge in the principles and practices of finance and broaden their opportunities to work in finance-related careers.

The financial industry has become increasingly complex in its operations and regulatory requirements. In order to succeed, finance professionals are often required to use large sum of data in conjunction with sophisticated financial processes to analyze and solve problems for organizations in rapidly changing environments. While a BBA in finance represents a useful entry-level degree for many positions in the field, the complexity of contemporary financial and risk management requires systemic and in-depth training on financial theory and practice beyond what is possible within the undergraduate study. As a result, a master degree in finance often becomes a necessary level of academic training for specialized financial careers beyond the entry level.

The financial industry is one of the largest industries in the State of Hawaii and has been growing rapidly. The proposed master in finance program will rigorously recruit students from the Shidler College and the local community and offer them expert training tailored for future global financial markets. These talented individuals will in turn serve in the local real estate, financial services and energy sectors, hence promoting the growth of local economy. In the long run they will also help enhance the economic competitiveness of the State of Hawaii.

**B. Identify the program outcomes, what the student will know and be able to do at the completion of the program**

The proposed MSF program builds on the knowledge students develop in an undergraduate finance or related degree program. Upon completion of the MSF program, graduates will be able to achieve the following outcomes.

1. Students will be able to learn advanced theories and best practices in the financial industry in areas such as corporate financial management, banking, investment management, wealth management, and risk management and insurance.
2. Students will learn comprehensive knowledge necessary for obtaining the CFA (Chartered Financial Analyst<sup>®</sup>), the FRM (Financial Risk Manager<sup>™</sup>), and/or the CFP (Certified Financial Planner<sup>®</sup>) certifications that have become golden standards in the

financial industry. These credentials should significantly broaden career opportunities for students in finance-related fields such as Commercial Banking, Financial Planning, Insurance, Investment Banking, Financial Analysis, etc., and they are often the prerequisite for higher paying positions in these industries. Due to the level of difficulties of those exams and the amount of time required for preparation, it is almost impossible for most of BBA students to pass the certification exams prior to graduation.

3. Students will master in-depth knowledge for conducting practical research in the areas of equity valuation, portfolio management, and risk management and insurance.
4. Students will obtain solid foundation in financial management that will be valuable if they pursue further graduate studies such as PhD program in finance.

### **C. Describe the fit of the proposed program with system/campus mission and state need**

#### **1) Alignment with the UH System mission and academic master plan as well as campus mission and academic plan**

The proposed MSF program has its objectives consistent with the mission and strategic plan and outcomes of the University of Hawaii. “The primary mission of the University of Hawaii is to provide environments in which faculty and students can discover, examine critically, preserve and transmit the knowledge, wisdom and values that will help ensure the survival of the present and future generations with improvement in the quality of life.”

The proposed MSF program is aligned with: 1) the Hawai‘i Graduation Initiative (HGI) Goal (increase the educational capital of the state by increasing the participation and completion of students, particularly Native Hawaiians, low-income students, and those from underserved regions and populations and preparing them for success in the workforce and their communities); 2) the HGI Action Strategy 3 (anticipate and align curricula with community and workforce needs).

The proposed MSF program will also align with of the University’s six-year strategic direction. “Hawai‘i Innovation Initiative (HI2) Goal is to create more high-quality jobs and diversify Hawai‘i’s economy by ...innovation, research, education and training enterprise that addresses the challenges and opportunities faced by Hawai‘i and the world...” (University of Hawai‘i Strategic Directions, 2015–2021). The proposed MSF program aims to provide our students with knowledge of cutting-edge finance theory and skills that will help address the contemporary challenges in the financial industry of Hawai‘i.

The proposed program is aligned with the Integrated Academic and Facilities Master Plan. “UH Mānoa must also continue to meet the professional workforce needs of Hawai‘i in areas such as education, medicine, nursing, law, business, social work and engineering,” (page 4). Finally, you will find that through planned coordination with our undergraduate programs, the proposed degree addresses the implications for UH Mānoa’s graduate enrollment management as well. “Graduate enrollment management should focus particularly on attracting the best students to UH Mānoa graduate and professional programs defined as strategic. UH Mānoa can also do more to recruit UH undergraduates into some of its graduate programs, particularly master’s degree programs, (page 5).

**2) Provides evidence of continuing need for the program, projections of the number of graduates, of career and graduate education opportunities for those completing the proposed program, etc.**

Shidler College of Business currently has a full-time MBA program. It is a general degree and does not have distinctive functional concentrations. However, demand for specialized programs focusing on functional areas such as accounting, finance, information technology, marketing, and management has increased significantly in recent years. Unlike the MBA program, the specialized MSF program requires little or no work experience and thus can attract new undergraduate students who wish to obtain broader and in-depth knowledge in finance and to be more competitive in the job market. The MSF program is also appropriate for industry practitioners who want to obtain deeper understanding of theories or up-to-date knowledge in finance.

The MSF program is expected to graduate approximately 20 students per cohort. In addition to industry opportunities in the finance sector, students in the MSF program will also have the option to apply for admission to a PhD program with a specialty in finance at the Shidler College of Business or other universities.

**3) Market analysis of the need of the program by addressing the professional, economic, social and workforce needs of the State of Hawai'i**

Hawaii State has a diverse economy. The service industry, which includes hotels, finance, real estate, and private healthcare, is ranked among the top five industries in the State. As an environmentally friendly industry, the finance sector, especially wealth management, real estate, funds investment, and risk management, has thrived in recent years in Hawaii. In 2015, the employment in the sector of finance, insurance, real estate, rental, and leasing is 46133, accounts for 6.8% of the total employment. (Table 12.14 of the State of Hawaii Data Book, 2016, <http://dbedt.hawaii.gov/>) The trend has been increasing. Financial companies such as Bank of Hawaii, First Hawaiian Bank, American Savings Bank, are among the state's top 25 employers.

As the flagship campus of the University of Hawaii system, UH Manoa has been the main driving force in the supply of local labor force with advanced education. Shidler College of Business has been providing the state with high quality graduates in all business areas. We expect that the proposed MSF program will have a significant impact over time on satisfying our state's workforce need and stimulating economic growth.

**4) Demonstrates how the proposed program responds to national and international needs where Hawai'i and the University have unique or outstanding resources to respond with quality**

The proposed MSF program will further enhance the reputation of UH Manoa in supplying high quality graduate students in financial management areas to State of Hawaii, Asia-Pacific countries and the U.S. mainland. There is no current graduate program that focuses on finance at UH Manoa. UHM's location and exposure to both Asian and American culture provides a unique



environment for students to learn about American and Asian economies and financial markets, providing them with a competitive advantage in today's job market.

International students graduating from the MSF program will see greater employment opportunities, especially in East and Southeast Asian countries where investment and portfolio management as well as risk management are increasingly in demand as their financial markets grow. UH Manoa has many foreign university partners and the proposed MSF program will offer a unique opportunity for students from partner universities to enroll in the master degree program after their senior year at UHM.

#### **5) Meets the basic education needs for which there is a demand by Hawai'i residents**

The enrollment of undergraduate students at the Shidler College has been large and steadily growing. The College also has a successful Direct Admit Program (DAP), in which top-tier high school graduating students mostly from Hawaii are directly enrolled in the business program. Many of these undergraduate students are planning to continue their study towards a master degree upon graduation. The proposed MSF program will certainly address their demand.

In addition, undergraduate students from other units in the UH system, such as economics, mathematics and other related majors, will also greatly benefit from attending the MSF program. They will learn theoretical and practical knowledge in financial management. They will obtain the skills that should enhance their marketability in the financial industry.

## **II. Program Organization**

### **A. Provides a description of curriculum organization, total credits to complete the program including all prerequisites requirements, admission policies, advising, and other aspects of the program, with reference to its goals/outcomes.**

The proposed MSF program is a full-time, one-year, non-thesis, Plan B finance graduate degree program that requires a minimum of 30-credits to complete. The program will provide students in-depth knowledge in the principles and practices of finance and broaden their opportunities to work in finance-related careers, in areas such as corporate financial management, banking and investment, wealth management, and risk management and insurance. The courses include the foundation courses and functional area courses. The courses will help students to pass the CFA (Chartered Financial Analyst®) exams. In addition, the courses will also help students to prepare for the FRM (Financial Risk Manager™), and/or the CFP (Certified Financial Planner®) certifications. In order to satisfy the requirement of a "culminating experience" for Plan B master's program set by the general Office of Graduate Education, students will complete a research project during the program. Appendix A provides a list of proposed MSF foundation courses and courses in functional areas.

There are two foundation courses that provide essential financial concepts and skills in corporate finance and investment. In addition, there are eight courses in two functional areas. The first functional area is "financial analysis, securities investments and portfolio management," whereas

the second functional area is “banking, insurance and risk management.” Career training will be provided through a series of workshops and internship that will guide and prepare students for taking the necessary steps to transition out of school and into their careers. The workshops will be done during the first semester and they will assist students with focusing their career paths and understanding what is needed to be competitive in their respective industry of choice.

The proposed Master of Science in Finance (MSF) is a full-time one-year non-thesis, Plan B marketing graduate degree program that requires 30 credits to complete. Up to 9 credit hours of finance-related coursework (including one 400-level and two 600-level courses) taken as an undergraduate within the Shidler College of Business in the final two semesters (or summer sessions) at UH Manoa will be allowed to be used toward the 30 credit hour requirement, provided a minimum of 141 credits total for both bachelor’s and master’s degree with a minimum of 21 hours of master’s coursework (inclusive of thesis or capstone hours) not double counted. Details of the potential pathway under Manoa’s combined bachelor’s/master’s programs guidelines will be discussed and potentially approved by the Department of Financial Economics and Institutions and the Office of the Vice Chancellor for Academic Affairs at a later date, assuming approval of the overall program by the campus and Board of Regents. Upon Departmental and Dean’s office approval, MSF students may take up to 9 credit hours of related graduate courses in other areas such as information technology, economics, and mathematics, etc.

The admission requires standard test scores such as GMAT or GRE. International students whose first language is not English are required to submit their official TOEFL test scores. The minimum scores for those standardized tests should be comparable to other Shidler graduate programs such as MBA program. Admission requirement also includes an undergraduate cumulative GPA of at least 3.0 at the time of application. The prerequisites for the program are college level mathematics and statistics. Students with deficiency in prerequisites will be directed to take relevant courses in the first semester of the program. Applicants who do not meet the requirements may be considered under special circumstances by the MSF Admissions Committee.

An MSF faculty director will oversee admissions, in conjunction with the Shidler College of Business Graduate Student Office and an admissions sub-committee of MKT Faculty. The faculty director will advise newly admitted students in course selection and progression through the program. The faculty instructor for the Capstone class in spring/summer will oversee the student capstone experience.

### **III. Student Demand**

#### **A. Profile of students who will likely enroll in the program, including a discussion on the likelihood of the program attracting new students to the campus or existing students**

The target student pool will mainly come from three fronts:

First, Shidler College undergraduate students in their senior year, particularly the students in the

DAP program (Direct Admit Program). We expect a 4+1 program to be attractive to outstanding Shidler undergraduate students who wish to obtain extensive training in finance subject.

Second, international students, especially those from East and Southeast Asia where investment and portfolio management as well as risk management are increasingly in demand as their financial markets grow.

Third, undergraduate students from the UH system or other U.S. universities in economics, mathematics and other related majors who have solid quantitative training will benefit from attending a one-year MSF program to obtain thorough knowledge in finance and to make them more marketable in the financial industry.

Fourth, UHM's foreign university partners in the 3+2 program, whose students can enroll in the MSF program after their senior year.

### **B. Provides evidence of student interest (i.e. needs assessment)**

As Bloomberg Business reported<sup>1</sup>, a major asset of a MSF degree is the length of completion time. While MBA programs take two-to-three years, students can earn a Master's in Finance in just one year. That means it is more affordable. Furthermore, financial positions are changing and many professionals with MBAs are going back to school to get a Master's in Finance as well to hedge their bets. The types of jobs available with a Master's in Finance are usually in financial management including Commercial Banking, Financial Planning, Insurance Specialists, Investment Banking, Financial Analysis, and Brokers, among others.

The financial crisis in 2008 has demonstrated a much greater need for measuring and managing risks in finance and corporations. Today's financial industry has a big demand for training in risk management, compliance, asset management and financial modeling using Big Data. The job market is hot for graduates of Master of Science in Finance programs. For example, in 2015, 78 percent of employers planned to match or exceed their hiring of finance graduates compared to 2014, and demand is expected to remain strong, according to a study by the Graduate Management Admission Council<sup>2</sup>. The major financial media have reported that the financial crisis have led to more interests in specialized financial training<sup>3</sup>.

The Department of Financial Economics and Institutions conducted a MSF interest survey among all Shidler undergraduate students taking "finance", "real estate", and "insurance" classes in fall 2017. There are 196 students who completed the survey. Of them, 89 (or 45% of the

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<sup>1</sup><http://www.gradschoolhub.com/faqs/types-jobs-masters-finance/>

<sup>2</sup><http://www.washingtonpost.com/sf/brand-connect/grad-guide-finance-heats-up/>

<sup>3</sup> For example, see Financial Times, June 19, 2016, "Experiences of 2008 crisis have led to more interests in financial training." According to the article, "new regulations, new methods of delivery or alternative business models enabled by new technology have been good news for those providing financial training degree courses. A masters in finance is seen as more attractive to graduates because they can get a "deeper dive" into the subject and at a lower cost than with an MBA."

respondents) indicated that they were interested in the proposed MSF program. Among those students who are interested in MSF, 54 (or 61%) are from Hawaii. Furthermore, 58 (or 65%) said they planned to work in Hawaii. These survey data suggest that there is a potential demand for the MSF program among Hawaii students currently enrolled at Shidler. In the meantime, a majority of those students who are interested in the MSF program intend to work in Hawaii, implying that the proposed MSF program will potentially make positive contribution to the quality of local labor force in the financial industry.

Appendix B provides some online information about the demand and compensation for professionals with Master’s level finance knowledge and skills. Appendix C provides a partial list of MSF programs in major US universities. Appendix D is MSF interest survey and the summary results.

**C. Includes an estimated number of majors per year with an explanation on how this number was determined.**

|                                    | Previous Year | Current Year | Projected Years |         |         |         |
|------------------------------------|---------------|--------------|-----------------|---------|---------|---------|
|                                    | 2017-18       | 2018-19      | 2019-20         | 2020-21 | 2021-22 | 2022-23 |
| <b>ENROLLMENT (Fall Headcount)</b> |               |              |                 |         |         |         |
| Projected: MS in Finance           |               | n/a          | 20              | 25      | 25      | 25      |
| BBA in Finance                     | 181           | 199          | 190             | 190     | 190     | 190     |
| MBA, PhD Business Admin            | 260           | 220          | 220             | 220     | 220     | 220     |
| <b>COMPLETION (Annual)</b>         |               |              |                 |         |         |         |
| Projected: MS in Finance           |               | n/a          | n/a             | 20      | 25      | 25      |
| BBA in Finance                     | 127           | 127          | 127             | 127     | 127     | 127     |
| MBA, PhD Business Admin            | 147           | 130          | 130             | 130     | 130     | 130     |

The MSF program is expected to graduate approximately 20 students per cohort. Full-time student cohorts will run from mid-August to early mid-August of the following year (12 –month program, 30 credit hours in total, 9 to 12 credit hours in fall semester; 9-12 credit hours in spring semester; 3-6 credit hours in summer 1; 3-6 credit hours in summer 2). The estimated number of students is based on the interest survey of Shidler undergraduate students and estimated enrollment of students from U.S. mainland and international universities.

**IV. Program Resources and Efficiency**

**A. Describe resources required for program implementation and first cycle operation.**

**1) Number, source, and cost of faculty; library requirements; support personnel; estimated cost of supplies, equipment and CIP; facilities to be utilized.**

- a. **Faculty (existing and new FTEs):** No additional FTE is needed if enrollment is 40 or less. Some of the elective courses will be taught by adjunct lecturers.

| CURRENT ACADEMIC PERSONNEL    | Current Year   |
|-------------------------------|----------------|
| Current Faculty FTE           | 15             |
| Current Faculty Salaries (\$) | \$2,736,408.00 |

|                        |              |
|------------------------|--------------|
| Current Lecturers (\$) | \$ 67,847.65 |
| Current Graduate TAs   | 5            |

**b. Library resources (estimate of current resources and additional resources required):** The students in the proposed MSF program will use extensively existing Bloomberg terminals as well as other financial databases already available at the Shidler College and UH Manoa library.

**c. Physical resources (space, equipment, etc.):** The proposed MSF program will fully utilize the current facility and resources such as classrooms and financial databases. Any additional resources needed should be fully covered by the revenue generated by the program.

**d. Other resources required (staff, graduate assistantships, etc.):** It is expected that the proposed MSF program will share administrative staff with other Shidler graduate programs. The proposed MSF program will require one program director who will receive teaching reduction and/or compensation similar to other existing Shidler graduate programs.

**B. Describe the expected sources of funds, including sources of reallocated funds.**

The program will be funded by student tuition. No reallocation of funds is required.

| <b>TOTAL NEW PROGRAM RESOURCES</b><br>(These expenses are shared across the 3 proposed Shidler Master's Degrees) |                 |                 |                 |                 | <b>TOTAL:<br/>\$225,000</b> |
|--|-----------------|-----------------|-----------------|-----------------|-----------------------------|
|  | <b>2019-20</b>  | <b>2020-21</b>  | <b>2021-22</b>  | <b>2022-23</b>  |                             |
| Promotional Expenses   | \$20,000        | \$15,000        | \$10,000        | \$8,000         |                             |
| Executive Ed Staff Expenses  | \$10,000        | \$12,000        | \$15,000        | \$15,000        |                             |
| Outreach Overhead  | \$30,000        | \$30,000        | \$30,000        | \$30,000        |                             |
| <b>Total New Resources Needed<br/>(for MSMM, MSF, MSIS programs)</b>   | <b>\$60,000</b> | <b>\$57,000</b> | <b>\$55,000</b> | <b>\$53,000</b> |                             |

**New Program Resources**

(Total needed for proposed MS in Marketing Management, MS in Finance, and MS in Information Systems)

- Promotional Expenses: Includes advertising, brochures, fliers and promotional trips.
- Executive Education Staff Expenses: Includes books/lecture materials and computer, network expenses
- Outreach College Overhead: Outreach College administrative fees of \$40 per credit student effective through Summer 2017 (assuming same fees).

**C. Compare anticipated cost per SSH, cost per major, SSH/faculty, average class size or other quantitative measure with other programs in the college.**

|  | Previous Year  | Current Year   | Projected Years |                |                |                |
|--|----------------|----------------|-----------------|----------------|----------------|----------------|
| <b>COURSES, SECTIONS, SSH (Annual)</b> | <b>2017-18</b> | <b>2018-19</b> | <b>2019-20</b>  | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> |
| Projected New Courses                  |                | 0              | 0               | 0              | 0              | 0              |
| Projected New Sections                 |                | 0              | 0               | 0              | 0              | 0              |
| Projected New Course SSH               |                | 0              | 0               | 0              | 0              | 0              |
| Current Courses Offered                | 32             | 34             | 34              | 34             | 34             | 34             |
| Current Sections Offered               | 36             | 41             | 41              | 41             | 41             | 41             |
| Current Annual SSH                     | 2,037          | 2,521          | 3,001           | 3,001          | 3,001          | 3,001          |

**D. List similar programs at other UH campuses and describe how the proposed program differs or is similar to these programs. Provide rationale for the new program if there are similar existing program(s).**

There are no similar programs offered in the UH System. The MBA degree offered by the Shidler College of Business is a generalist degree designed for individuals with work experiences but relatively little formal management education. The proposed MSF program will attract students who have less or no work experience but who have a strong interest in obtaining comprehensive and in-depth knowledge in finance, ideally completing one or more certifications in the financial management field. The master degree will help students obtain higher paying positions with additional responsibilities. Given that the program is a special area of graduate study, it is not possible to obtain similar levels of training within the MBA Program. Hence, there is a need for a specialized finance master program.

**V. Program Effectiveness**

**A. Describe the plan for assessing the quality of student learning.**

The proposed program will be assessed relative to the best MSF programs offered by academic institutions on the mainland. Graduating students will be surveyed to provide constant feedback on how to improve the programs content. The Shidler College of Business is an AACSB accredited business college. Therefore, the college is required to establish and employ systematic measurement of student learning that facilitates continuous improvement of pedagogy and course content to help ensure delivery of a high quality educational experience. The College maintains a standing Faculty committee, the Assurance of Learning Committee, that works with Department Chairs, Program Directors, and the College’s Curriculum and Programs Committee to develop and implement such measurement systems. The Department of Financial Economics and Institutions will work with the College Assurance of Learning Committee to develop a similar system for the MSF Program. The assessment is likely to include analysis of achievement of learning objectives within each of the core concentrations of the MSF program. Achievement indicators may include, for example, the number of students who pass the various certifications examinations. In addition, student evaluations for every course will be shared with the Faculty Director to enable improvements on the part of individual Faculty within the MSF Program.

**B. Identify relevant program accreditation and plans to meet accreditation requirements.**

The Shidler College of Business at the University of Hawai'i at Mānoa is accredited by the AACSB International. The MSF program will follow AACSB International requirements for accreditation as one of the programs offered by the College and will not adversely affect accreditation. If the program has been approved to start in Fall 2019, we will include the program to our next AACSB accreditation in Fall 2020.

## **Appendix A: Proposed Master of Science in Finance (MSF) Curriculum**

(All courses listed below are existing courses in UHM catalog)

### **1. Foundation Courses in Corporate Finance and Investments**

BUS 629: Managerial Finance  
FIN 634: Investment Analysis and Management

### **2. Courses in Functional Areas (courses can be overlapping across functional areas)**

#### ***Financial Analysis, Securities Investments and Portfolio Management***

ACC 581: Financial Accounting 1  
FIN 633: Problems in Business Finance  
FIN 653: Portfolio Optimization  
FIN 654: Financial Derivatives  
FIN 655: Financial Forecasting

#### ***Banking, Insurance and Risk Management***

FIN 625: International Monetary Systems and Global Financial Markets  
FIN 639: International Banking  
FIN 656: Insurance and Risk Management

### **3. Culminating experience**

Following the requirement of a “culminating experience” for Plan B master’s program set by the general Office of Graduate Education, students will complete a research project through consulting practicum, finance internship or other “culminating” experience, e.g., FIN 661 (Research Seminar – 3 credit hours required of all students)

## Appendix B: Descriptive data about demand for Master of Science in Finance Program and Career information

- 1) The information below is from <http://www.worldwidelearn.com/online-education-guide/business/finance-major.htm>

### *Finance* Salaries and Career Outlook Data

| Career   | Total Employment | Annual Mean Wage | Projected Job Growth Rate |
|--|------------------|------------------|---------------------------|
| Financial Analysts   | 268,360          | \$95,320         | 11.7%                     |
| Financial Managers   | 531,120          | \$134,330        | 6.8%                      |
| Loan Officers  | 303,870          | \$75,170         | 8.1%                      |
| Personal Financial Advisors                                  | 197,580          | \$118,050        | 29.6%                     |
| Securities, Commodities, and Financial Services Sales Agents | 319,280          | \$102,860        | 9.5%                      |

Source: 2015 Occupational Employment Statistics and 2014-24 Employment Projections, Bureau of Labor Statistics, BLS.gov.

- 2) The information below is from: <http://www.bls.gov/careeroutlook/2015/article/should-i-get-a-masters-degree.htm#Business>

### Selected business occupations in which workers with a master's degree earned a premium over workers with a bachelor's degree, 2013

| Occupation   | Employment with bachelor's degree | Percent with bachelor's degree | Employment with master's degree | Percent with master's degree | Median annual wage for bachelor's degree | Median annual wage for master's degree | Wage premium amount <sup>(1)</sup> | Wage premium percent |
|--|-----------------------------------|--------------------------------|---------------------------------|------------------------------|--|--|------------------------------------|----------------------|
| Securities, commodities, and financial services sales agents | 113,110                           | 54%                            | 32,865                          | 16%                          | \$90,000                                 | \$170,000                              | \$80,000                           | 89%                  |
| Financial managers   | 400,770                           | 41                             | 182,678                         | 19                           | 78,000                                   | 110,000                                | 32,000                             | 41                   |
| Property, real estate, and community association managers    | 92,579                            | 27                             | 23,380                          | 7                            | 56,000                                   | 76,000                                 | 20,000                             | 36                   |

Footnotes:

(1) The wage premium represents the wage increase for workers with a master's degree over that for workers with a bachelor's degree in the occupation.

Source: U.S. Census Bureau, American Community Survey

- 3) The information below is From: <http://www.master-of-finance.org/salary/>

The highest Master of Finance salary for Masters in Finance degree holders are vice president for finance positions with a median annual salary range of \$170,000. Finance directors and senior financial analysts



can also earn as much as \$154,000 and \$83,000 in median pay respectively. However, the demand for these top positions is quite narrow. The U.S. Bureau of Labor Statistics reports that jobs for financial managers are expected to grow by 8 percent from 2008 until 2018. This is because of increasing investment complexity, the changing regulatory environment and emerging global finance. Financial managers can earn as much as \$99,330 in median salary. Entry level financial analysts earn an average salary of \$74,350. These professionals work for banks and retirement funds. They also offer assistance for people who are buying stocks, commodities and bonds. Meanwhile, personal financial advisors earn a median salary of \$64,750. These professionals offer advice to help people with their financial and estate planning. High-end insurance underwriters can earn about \$126,000 yearly.

4) The information below is from:

[http://www.payscale.com/research/US/Degree=Master\\_of\\_Finance\\_\(MFin\)/Salary#by\\_Job](http://www.payscale.com/research/US/Degree=Master_of_Finance_(MFin)/Salary#by_Job)

Employees with a Master of Finance (MFin) Degree Median Salary by Job

| <b>Job</b>  | <b>National Salary Data</b> |
|---|-----------------------------|
| Financial Analyst   | \$61,076                    |
| Senior Financial Analyst  | \$82,741                    |
| Chief Financial Officer (CFO)   | \$140,000                   |
| Financial Controller  | \$78,695                    |
| Finance Manager   | \$89,004                    |
| Portfolio Manager   | \$98,920                    |
| Vice President (VP), Finance  | \$135,948                   |
| Country: United States, Currency: USD. Updated: 14 Jan 2017, Individuals Reporting: 428 |                             |

5) The article below provides description of the demand for MSF graduates. It is from Washington Post BrandStudio (<http://www.washingtonpost.com/sf/brand-connect/grad-guide-finance-heats-up/>)

The 2008 market meltdown brought big changes to the way banks, investment houses and other players operate in the finance industry. It's brought about a lowered tolerance for risk, along with stricter compliance regulations and accounting controls. The crisis's aftereffects aren't limited to Wall Street—it's changed how finance students prepare for their careers. Industry professionals say demand is strong worldwide for professionals in risk management, corporate finance and asset management.

"The financial crisis demonstrated a much greater need for measuring and managing risks in finance and corporations," said Michael Faulkender, associate professor and director of the Master of Finance program at the University of Maryland's Robert H. Smith School of Business. "Risk management is a hot topic."

Risk is just one subject that graduate finance students will need to conquer to be competitive in today's job market. Training in compliance, asset management and financial modeling using Big Data can also provide a big edge. "There are some pretty consistent skillsets that firms want today," said Allan Eberhart, finance professor and director of the Master of Science in Finance program at Georgetown University.

Outside the Beltway, nationally ranked MS finance programs include Massachusetts Institute of Technology, Princeton, Vanderbilt, Washington University in St. Louis and the University of Southern California. And with business now truly global, institutions that offer world-class postgraduate finance programs can be found all over the map. Top-rated institutions outside the United States include the London Business School, the University of Cambridge and HEC Paris.

## **Finance jobs are on the rise**

The job market is hot for graduates of master of finance and master of science in finance programs. Last year, 78 percent of employers planned to match or exceed their hiring of finance graduates compared to 2014, and demand is expected to remain strong, according to a study by the Graduate Management Admission Council.

Several factors are driving this trend. While Wall Street does not traditionally recruit from graduate programs, preferring instead to hire undergraduates for grueling internships, other sectors of the industry more than compensate for that.

Corporations are looking for individuals with advanced financial skills that complement many departments. One student in Georgetown's program is an Anchorage, Alaska-based engineer at a major oil company. He's taking advantage of the school's flexible online options to prepare for a role in the company's portfolio investment unit.

Tech startups are another growing destination for finance graduates. Ride and room-sharing companies and other app-based operations are seeing big growth, fueled by private funding. Currently, there are 147 privately held companies worth more than \$1 billion, so-called unicorns, compared to 83 just a year ago. "There's much more private equity and venture capital than there was 10 years ago," Faulkender said.

The unicorns also drive hiring indirectly. Founders and CEOs at those firms often position them for acquisition, and potential buyers need professionals with deep valuation skills. "Valuation is a huge area," Eberhart said. For example, students in Georgetown's MSF program are working with a major, international consulting company to help its executives arrive at a valuation for a tech startup it's considering acquiring.

## **Real-world experience attracts employers**

With this kind of hands-on work experience, master in finance students are some of the most sought after postgraduates. "We're focused on experiential learning," Faulkender said. "Our students are working with real companies to solve the situations they're confronting."

Maryland's graduate finance students have worked with the World Bank on mortgage portfolio structuring and with private companies on capital budgeting. Georgetown students went to Africa to help a private bank value its various services across the continent. "These are not book reports where everybody claps politely," Eberhart said. "Our students built this incredibly complex model."

## **The numbers on paper**

MF and MSF programs typically take about one to two years at between \$30,000 to \$50,000 per year for tuition and fees. But it's usually well worth it. The average salary increase for Georgetown students is 43 percent, with the median at 65 percent. But students need to be well prepared and have strong backgrounds in math and statistics. The average GMAT score for students entering the University of Maryland's program is 700. "We're able to be very selective," Faulkender said.

Many students have also completed, or will complete, the Chartered Financial Analyst program, which is seen as complementary to an MSF. "Our grads have significantly higher pass rates" on the CFA exam, Faulkender said.

Georgetown's McDonough School of Business also offers executive education and other programs that can be custom tailored for professionals and organizations. Executive MBAs and master's in international business and policy are available in full-time and evening MBA programs. MSB students graduate "global ready," said Chris Kormis, associate dean and chief marketing officer.

Looking ahead, demand for jobseekers with master in finance degrees is expected to remain strong for the foreseeable future, driven by globalization, regulatory reform and the increasing complexity of investment portfolios.

“All of our students were employed after graduation,” Eberhart said.

### Appendix C: Examples of U.S. Universities with Master of Science in Finance Programs

| Institutions        | Program Type  | Start Date | Duration          | Total Tuition   | Enrollment (2016) | Acceptance Rate |
|---------------------|---|------------|-------------------|---|-------------------|-----------------|
| MIT                 | Master of Finance                                   | 2009       | 1 year; 18 months | \$75,850;<br>\$100,350  | 114               | 14.6%           |
| Boston College      | MS in Finance                                       |            | 1 year            | \$48,360  | 77                | 6%              |
| New York University | MS in Global Finance (executive) (Joint with HKUST) | 2007       | 1 year            | \$70,800  | NA                | 20%             |
| UT – Austin         | MS in Finance                                       | 2012       | < 1 year          | in/out state: \$43,000/48,000   | 50                | 29.7%           |
| Univ. of Rochester  | MS in Finance                                       |            | 11 months         | \$75,000  | NA                | 32.8%           |
| Indiana Univ.       | MS in Finance (online)                              | 2002       | 18 months         | \$38,100  | NA                | NA              |
| Georgetown          | MS in Finance (online)                              | 2014       | 20 months         | \$69,760  | NA                | NA              |
| Notre Dame Univ.    | MS in Finance                                       | 2015       | 1 year            | \$57,100  | NA                | NA              |
| Univ. of Illinois   | MS in Finance                                       | NA         | 15 months         | \$59,364  | NA                | 32.1%           |
| Michigan State      | MS in Finance                                       | 2002       | 1 year            | in/out state: \$37,500/39,600   | NA                | NA              |
| Texas A&M           | MS Finance  | NA         | 10-month          | in/out state: \$31,500/44,600   | 50                | NA              |
| University of Utah  | MS in Finance                                       | NA         | 1-year            | Resident / Full-Time: \$27,200<br>Resident / Part-time: \$31,000<br>Non-Resident/International, Full-Time: \$46,100 | 88                | NA              |
| USC                 | MS in Finance                                       | NA         | 1 year            | \$66,492  | 65                | 7.7%            |

Sources: *US News: Best Finance Programs (2015)* and *Poets&Quants (www.poetsandquants.com)*, supplemented by information from university websites and faculty in other universities with MS in finance program.

## Appendix D: MSF Interest Survey Data Summary

FEI department conducted an in-class survey for Shidler undergraduate students who are taking “finance (FIN)”, “real estate (RE)” and “Insurance (INS)” classes in fall 2017 semester.

**If a one-year MSF program is offered at Shidler College, would you be interested in applying?**

|                                | Number of Students | Percentages |
|--------------------------------|--------------------|-------------|
| Total students                 | 196                | 100%        |
| Students interested in MSF     | 89                 | 45%         |
| Students not interested in MSF | 42                 | 22%         |
| Unsure                         | 65                 | 33%         |

**Are you planning on attending graduate school?**

|  |     |     |
|--|-----|-----|
| Yes                                    | 115 | 59% |
| No                                     | 74  | 38% |
| Undecided                              | 7   | 3%  |
| If yes, attending                      |     |     |
| 1) immediately after Bachelor’s degree | 26  | 23% |
| 2) after 1-2 years of work             | 81  | 70% |
| 3) undecided                           | 8   | 7%  |

**The following data are for those students who are interested in MSF (among those 89 students):**

They are originally from:

|               | Number of Students | Percentages |
|---------------|--------------------|-------------|
| Hawaii        | 56                 | 63%         |
| U.S. Mainland | 18                 | 20%         |
| International | 15                 | 17%         |

Where they plan to work (some students wrote multiple places):

|        | Number of Students | Percentages |
|--------|--------------------|-------------|
| Hawaii | 58                 | 65%         |
| Others | 49                 | 55%         |

The job areas they plan to work in (some student chose multiple areas):

|                               | Number of Students | Percentages |
|-------------------------------|--------------------|-------------|
| Investment Management         | 53                 | 60%         |
| Wealth Management             | 30                 | 34%         |
| Insurance and Risk Management | 21                 | 24%         |
| IT Related Finance            | 20                 | 22%         |
| Banking                       | 2                  | 2.2%        |
| IB Finance                    | 1                  | 1.1%        |
| Corporate Finance             | 2                  | 2.2%        |
| Investment Banking            | 1                  | 1.1%        |
| CFA                           | 1                  | 1.1%        |
| Real Estate                   | 5                  | 5.6%        |
| Data Analytics                | 2                  | 2.2%        |

|                                    |   |      |
|------------------------------------|---|------|
| Product Management                 | 1 | 1.1% |
| Marketing/Management               | 1 | 1.1% |
| Seeking multidisciplinary programs | 1 | 1.1% |
| Sustainable Environment            | 1 | 1.1% |

Gender:

|        | Number of Students | Percentages |
|--------|--------------------|-------------|
| Male   | 57                 | 64%         |
| Female | 32                 | 36%         |

What year they are in (One student did not answer this question):

|           | Number of Students | Percentages |
|-----------|--------------------|-------------|
| Freshman  | 0                  | 0           |
| Sophomore | 0                  | 0           |
| Junior    | 8                  | 9%          |
| Senior    | 80                 | 90%         |

Major in (Some students wrote double majors):

|         | Number of Students | Percentages |
|---------|--------------------|-------------|
| Finance | 76                 | 85%         |
| Others  | 34                 | 38%         |

The document below is the interest survey distributed to students who are currently taking finance, real estate, and insurance classes in fall 2017.

### Master of Science in Finance Interest Survey

Please take a few minutes to fill out the following survey. By doing so you will be helping us find out if a Master of Science in Finance is something of interest to you.

**The name of the class you are taking now:** \_\_\_\_\_ (Note: if you completed this survey in another class, you do not need to fill out this survey again. Thank you for your time!)

#### Background Information

**GENDER:**                     MALE                     FEMALE

**What year are you in:**

Freshman                     Sophomore                     Junior                     Senior

**I was originally from:**

Hawaii                     U.S. Mainland  
 International (*Please specify country*) \_\_\_\_\_

#### Academic

**Your major (If you have not decided, you can write “undecided”)** \_\_\_\_\_

**Are you planning on attending graduate school?**

Yes                     No

***If so, when do you plan to attending?*** (Please see the other side)

Immediately after my Bachelor’s degree  
 After I work for one or more years

**If a one-year Master of Science in Finance (MSF) program is offered at Shidler, would you be interested in applying?**

(For your information, the MSF is a one-year non-thesis master degree program with 10 courses that focus on advanced corporate finance, accounting, investment and wealth management, insurance, and IT related finance. The MSF program will help students prepare for CFA (Charter Financial Analyst), CFP (Certified Financial Planner), and FRM (Financial Risk Manager) and other certifications that are gold standard credentials in financial industry. The MSF degree will provide you with broad and in-depth knowledge and skills that you need to work in the financial industry beyond the entry level.)

Yes                     No                     Unsure

*If yes, check next to which area you plan to work in?*

- Investment Management
- Wealth Management
- Insurance and Risk Management
- IT related Finance
- Other (please specify) \_\_\_\_\_

Professional

**Where do you plan on getting a job (e.g., Hawaii, U.S. mainland, foreign countries, etc.)?**

**What industry do you plan on working in when you graduate?**

**Thank you for your time! If you are interested or curious in our Master of Science in Finance program, please include your name and email below. (You may leave them blank)**

**NAME** \_\_\_\_\_

**EMAIL** \_\_\_\_\_

## Attachment 2: List of Universities with MSF Programs Adopting the CIP Code 27.0305

| University                            | Link  |
|---------------------------------------|---|
| Arizona State University              | <a href="https://wpcarey.asu.edu/masters-programs/finance">https://wpcarey.asu.edu/masters-programs/finance</a>   |
| Babson College                        | <a href="https://www.babson.edu/graduate/academics/full-time-business-programs/master-of-science-in-finance/">https://www.babson.edu/graduate/academics/full-time-business-programs/master-of-science-in-finance/</a>                     |
| Bentley University                    | <a href="https://www.bentley.edu/news/new-master-finance-degree-program-path-classified-stem-designated">https://www.bentley.edu/news/new-master-finance-degree-program-path-classified-stem-designated</a>                               |
| Boston College                        | <a href="https://www.bc.edu/bc-web/schools/carroll-school/graduate/ms-programs/ms-in-finance.html">https://www.bc.edu/bc-web/schools/carroll-school/graduate/ms-programs/ms-in-finance.html</a>   |
| Brandeis University                   | <a href="https://www.brandeis.edu/global/academics/msf/index.html">https://www.brandeis.edu/global/academics/msf/index.html</a>   |
| Case Western Reserve University       | <a href="https://weatherhead.case.edu/degrees/masters/m-finance/">https://weatherhead.case.edu/degrees/masters/m-finance/</a>   |
| Clark University                      | <a href="https://www.clarku.edu/academics/graduate/programs/masters/finance/">https://www.clarku.edu/academics/graduate/programs/masters/finance/</a>   |
| Colorado State University             | <a href="https://biz.colostate.edu/academics/graduate-programs/master-of-finance">https://biz.colostate.edu/academics/graduate-programs/master-of-finance</a>   |
| CUNY--Baruch College                  | <a href="https://zicklin.baruch.cuny.edu/academic-programs/graduate/ms/finance/">https://zicklin.baruch.cuny.edu/academic-programs/graduate/ms/finance/</a>   |
| DePaul University                     | <a href="https://business.depaul.edu/academics/finance-and-real-estate/graduate/finance-ms/Pages/default.aspx">https://business.depaul.edu/academics/finance-and-real-estate/graduate/finance-ms/Pages/default.aspx</a>                   |
| Eastern Michigan University           | <a href="https://www.emich.edu/cob/programs/finance-programs/ms-finance/index.php">https://www.emich.edu/cob/programs/finance-programs/ms-finance/index.php</a>   |
| Fairfield University                  | <a href="https://www.fairfield.edu/graduate-and-professional-studies/charles-f-dolan-school-of-business/programs-and-c">https://www.fairfield.edu/graduate-and-professional-studies/charles-f-dolan-school-of-business/programs-and-c</a> |
| George Washington University          | <a href="https://business.gwu.edu/academics/programs/specialized-masters/ms-finance">https://business.gwu.edu/academics/programs/specialized-masters/ms-finance</a>   |
| Georgia State University              | <a href="https://robinson.gsu.edu/program/finance-ms/">https://robinson.gsu.edu/program/finance-ms/</a>   |
| Hofstra University                    | <a href="https://www.hofstra.edu/academics/colleges/zarb/zarb_grad_ms.html">https://www.hofstra.edu/academics/colleges/zarb/zarb_grad_ms.html</a>   |
| Hult International Business School    | <a href="https://www.hult.edu/en/programs/masters/finance/">https://www.hult.edu/en/programs/masters/finance/</a>   |
| Iowa State University                 | <a href="https://www.ivybusiness.iastate.edu/masters/mfin/">https://www.ivybusiness.iastate.edu/masters/mfin/</a>   |
| Johns Hopkins University              | <a href="https://carey.jhu.edu/programs/master-science-programs/ms-finance">https://carey.jhu.edu/programs/master-science-programs/ms-finance</a>   |
| Loyola University Chicago             | <a href="https://www.luc.edu/quinlan/mba/masters/masters-in-finance/">https://www.luc.edu/quinlan/mba/masters/masters-in-finance/</a>   |
| Massachusetts Institute of Technology | <a href="https://mitsloan.mit.edu/mfin#welcome">https://mitsloan.mit.edu/mfin#welcome</a>   |
| Michigan State University             | <a href="https://broad.msu.edu/masters/finance/">https://broad.msu.edu/masters/finance/</a>   |
| Northeastern University               | <a href="https://www.northeastern.edu/graduate/program/master-of-science-in-finance-boston-14318/">https://www.northeastern.edu/graduate/program/master-of-science-in-finance-boston-14318/</a>   |
| Northern Illinois University          | <a href="https://www.cob.niu.edu/academics/finance/ms/index.shtml">https://www.cob.niu.edu/academics/finance/ms/index.shtml</a>   |
| Ohio State University--Columbus       | <a href="https://fisher.osu.edu/graduate/smf/stem-designation">https://fisher.osu.edu/graduate/smf/stem-designation</a>   |
| Portland State University             | <a href="https://www.pdx.edu/business/academics/programs/graduate/finance">https://www.pdx.edu/business/academics/programs/graduate/finance</a>   |
| Purdue University--West Lafayette     | <a href="https://krannert.purdue.edu/masters/ms-finance/">https://krannert.purdue.edu/masters/ms-finance/</a>   |
| Saint Mary's College                  | <a href="https://www.stmarys-ca.edu/ms-finance">https://www.stmarys-ca.edu/ms-finance</a>   |
| Seattle University                    | <a href="https://www.seattleu.edu/business/ms-finance/">https://www.seattleu.edu/business/ms-finance/</a>   |
| Southern Methodist University         | <a href="https://www.smu.edu/cox/degrees-and-programs/ms-in-finance">https://www.smu.edu/cox/degrees-and-programs/ms-in-finance</a>   |
| St. John's University (NY)            | <a href="https://www.stjohns.edu/academics/programs/finance-master-science">https://www.stjohns.edu/academics/programs/finance-master-science</a>   |
| Suffolk University                    | <a href="https://www.suffolk.edu/business/degrees-programs/finance/graduate/master-of-science-in-finance">https://www.suffolk.edu/business/degrees-programs/finance/graduate/master-of-science-in-finance</a>                             |



Syracuse University <https://whitman.syr.edu/programs-and-academics/programs/ms/finance/index.aspx>

Tulane University <https://freeman.tulane.edu/graduate/master-finance>

University at Buffalo--SUNY <https://mgt.buffalo.edu/degree-programs/master-of-science-ms/finance.html>

University of Arizona <https://eller.arizona.edu/programs/masters/finance>

University of California--Irvine <https://merage.uci.edu/programs/masters/master-finance/index.html>

University of California--Riverside <https://business.ucr.edu/mfin>

University of California--San Diego <https://radu.ucsd.edu/programs/masters-programs/master-of-finance/>

University of Cincinnati <https://business.uc.edu/academics/specialized-masters/finance.html>

University of Dayton <http://catalog.udayton.edu/graduate/schoolofbusinessadministration/programsofstudy/finance/>

University of Houston <https://www.bauer.uh.edu/msfinance/>

University of Illinois--Chicago <https://business.uic.edu/graduate-programs/graduate-degrees/master-science-finance/>

University of Illinois--Urbana-Champaign <https://giesbusiness.illinois.edu/msf>

University of Iowa <https://tippie.uiowa.edu/future-graduate-students/masters-programs/finance>

University of Kentucky <https://www.uky.edu/academics/masters/finance-graduate>

University of Massachusetts--Amherst <https://www.isenberg.umass.edu/programs/masters/mf/alternative-investments>

University of Miami <https://www.bus.miami.edu/academic-programs/mba-masters/masters/finance-program/index.html>

University of Minnesota--Twin Cities <https://carlsonschool.umn.edu/degrees/master-science-in-finance>

University of Mississippi <https://olin.wustl.edu/EN-US/academic-programs/specialized-masters-programs/MS-finance/Pages/default.aspx>

University of New Hampshire <https://paulcollege.unh.edu/program/ms/finance>

University of North Texas <https://cob.unt.edu/masters/ms-programs>

University of Oregon <https://business.uoregon.edu/ms-finance>

University of Rochester <https://simon.rochester.edu/programs/full-time-ms-in-finance/academics>

University of San Diego <https://www.sandiego.edu/business/graduate/ms-finance/>

University of South Carolina <https://www.marshall.usc.edu/programs/specialized-masters-programs/master-science-finance>

University of Southern California <https://www.marshall.usc.edu/programs/specialized-masters-programs/master-science-finance>

University of Texas at Austin <https://www.mcombs.utexas.edu/Master-of-Science-in-Finance>

University of Texas at Dallas <https://fin.utdallas.edu/masters-degree-options/>

University of the Pacific <https://business.pacific.edu/business/academics/finance>

University of Utah <https://eccles.utah.edu/programs/master-of-science-in-finance/>

Vanderbilt University <https://business.vanderbilt.edu/news/2017/01/20/vanderbilt-ms-finance-program-receives-stem-certification/>

Washington University in St. Louis <https://olin.wustl.edu/EN-US/academic-programs/specialized-masters-programs/MS-finance/Pages/default.aspx>

### Attachment 3: Curriculum of the Shidler MSF Program

#### Prerequisites:

Two semesters of Economics (Microeconomics and Macroeconomics)  
Two semesters of Accounting (Managerial Accounting and Financial Accounting)  
One semester of Corporate Finance

- **MSF Foundation Courses (6 credits)**  
[FIN 633: Problems in Business Finance](#) (STEM focused)  
[FIN 634: Investment Analysis and Management](#) (STEM focused)
- **MSF Functional Courses (21 credits; select 7 courses from below)**  
[FIN 625: International Monetary Systems and Global Financial Markets](#)  
[FIN 636: Financial Analysis and Valuation](#) (STEM focused)  
[FIN 639: International Banking](#)  
[FIN 641: Entrepreneurial Finance](#) (STEM focused)  
[FIN 653: Portfolio Optimization](#) (STEM focused)  
[FIN 654: Financial Derivatives](#) (STEM focused)  
[FIN 655: Financial Forecasting](#) (STEM focused)  
[FIN 656: Insurance and Risk Management](#) (STEM focused)  
[FIN 660: Seminars in Finance](#)  
[BUS 695: Internships](#) (up to 3 credits)  
[BUS 699: Directed Reading and Research](#)
- **MSF Capstone (3 credits)**  
[FIN 661 Research Seminar](#) (STEM focused)

#### Approved Double-Counting Courses (up to three) for BAM Students (4+1 path)

- **Select up to two 600-level courses from below**  
[FIN 633: Problems in Business Finance](#)  
[FIN 634: Investment Analysis and Management](#)  
[FIN 625: International Monetary Systems and Global Financial Markets](#)  
[FIN 639: International Banking](#)
- **Select up to one 400-level courses from below**  
[FIN 412: Option and Other Derivative](#) (STEM focused)  
[FIN 415: Security Analysis & Portfolio Management](#) (STEM focused)  
[FIN 450: Enterprise Risk Management](#) (STEM focused)  
Note: these three 400-level courses are quantitative in nature and thus are perfectly aligned with the “Financial Mathematics” CIP code.

## **Attachment 4: Comparison of Curriculum between Selected MSF Programs and Shidler MSF Program**

In this appendix, we select a few MSF programs in the U.S. that are STEM designated and compare their curriculum with ours. **We note similar courses in the UH Manoa Shidler MSF curriculum in parentheses.**

### **1. Arizona State University**

ASU's MSF program has two areas of focus: Corporate Finance and Investment, and Analytic Methods. Both tracks are STEM designated. We compare its Corporate Finance and Investment focus with our program.

#### **Total credits: 30 credits**

Financial Accounting (included in FIN 636)  
Managerial Finance (included in FIN 633, FIN634, FIN653)  
Quantitative Methods in Finance I (included in FIN 655, FIN634, and FIN653)  
Quantitative Methods in Finance II (included in FIN 655, FIN634, and FIN653)  
Investment Strategies (included in FIN 634)  
Fixed Income (included in FIN 634)  
Derivatives (included in FIN 654)  
Advanced Corporate Finance (included in FIN 633)  
Entrepreneurial Finance (included in FIN 641)  
International Finance (included in FIN 625)  
Risk Management in Bank and Financial Institutions (included in FIN 639 and FIN 656)  
Finance Capstone (included in FIN 661)

### **2. Boston College:**

BC's MSF program in the Quantitative Finance Track is STEM designated. Its curriculum is shown below.

#### **Total credits: 30 credits**

##### **Required courses (24 credits)**

Investment (included in FIN 634)  
Corporate Finance (included in FIN 633)  
Management of Financial Institutions (included in FIN 639 and FIN 656)  
Financial Econometrics (included in FIN 655)  
Quantitative Portfolio Management (included in FIN 653)  
Derivative & Risk Analytics (included in FIN 654 and FIN 656)  
Data Analytics in Finance (included in FIN 633, FIN634, FIN 636, FIN 655)  
Fixed Income Analysis (included in FIN 634)

**Elective courses (select two courses from below; 6 credits)**

Venture Capital (included in FIN 641)

Forecasting Techniques (included in FIN 655)

Equity Securities Analysis (included in FIN 634)

Introduction to the Investment Banking Industry (included in FIN 639)

Applied Fundamental Analysis (included in FIN 634 and FIN 636)

Corporate Valuation and Restructure (included in FIN633)

**3. CUNY--Baruch College**

**Total credits: 30 credits.**

**Required courses (10.5 credits)**

Business Communication (1.5 credits)

Econometrics: Theory and Application I (included in FIN 655)

Intermediate Corporate Finance (included in FIN 633)

Investment Analysis (included in FIN 634)

**Selected Electives (19.5 credits)**

Venture Capital and Entrepreneurial Finance (included in Fin 641)

Futures and Forward Markets (included in FIN 654)

Management of Financial Institutions (included in FIN 639)

International Financial Markets (included in FIN 625)

Seminar in Finance (included in FIN 660)

Financial Accounting (included in FIN 636)

Risk Management in Financial Institutions (included in FIN 656)

**4. Iowa State University**

**Total credits: 30 credits**

**Required Courses (18 credits)**

Analytical Finance (included in FIN 634 and FIN 655)

Advanced Corporate Finance (included in FIN 633)

Investments (included in FIN 634)

Financial Analysis and Valuation (included in FIN 636)

Financial Derivatives (included in FIN 634)

Financial Econometrics (included in FIN 655)

**Elective courses (select two courses from below; 6 credits)**

Predictive Analytics in Finance

Case Studies in Finance

Venture Capital, Private Equity, and M&A (included in FIN 641)

Analytics in Finance and Insurance (included in FIN 634, FIN 655, and FIN 656)

Advanced Financial Modelling

Real Estate Finance

International Finance (included in FIN 625)

**Other Electives (select from a wide range of accounting, economics, statistics courses; 6 credits)**

## **5. St. John's University**

St. John's MSF program has two tracks: Investment Management Track and Financial Technology Track. Both tracks are STEM designated. Below is the curriculum for the investment management track.

**Total credits: 30 credits**

### **Required courses (21 credits)**

Economics Foundations (Shilder MSF program requires students to take Microeconomics and Macroeconomics as prerequisites)

Financial Statement Analysis I (Shilder MSF program requires students to have two semesters of accounting as prerequisites; We also offer FIN 636 as an advanced course in Financial Analysis and Valuation.)

Financial Management (included in FIN 633)

Investment Analysis (included in FIN 634)

Quantitative Asset Management (included in FIN 653)

Financial Derivatives (included in FIN 654)

Financial Statistics and Alternative Investments (included in FIN 655)

### **Investment Management Track Elective courses (9 credits)**

Fixed-Income Analysis (included in FIN 634)

Financial State Analysis II (similar to FIN 636)

Portfolio Management and Analytics (included in FIN 653)

## **6. Syracuse University (30 credits)**

### **Required Courses (12 credits)**

Corporate Financial Policy & Strategy (included in FIN 633)

Investment Analysis (included in FIN 634)

Linear Statistical Models I: Regression Analysis OR Time Series Modeling and Analysis (included in FIN 655)

Financial Management (included in FIN 633 and FIN 656)

### **Finance Electives (9-12 credits)**

Selected Topics 1-6 credit(s) Corporate Restructuring, Derivatives (included in FIN 633 and FIN 654)

International Financial Management (FIN 625)

Fixed Income Securities (included in FIN 634)

Value Investing (included in FIN 653)

Control Investing

Financial Modeling (financial modelling components are throughout various MSF courses, including FON 633, FIN 634, FIN 653, and FIN 656)

### **Electives in Other Related Areas (9-12 credits)**

Courses may be chosen in disciplines such as Accounting, Business Analytics, Computer Science, Economics, Mathematics, Real Estate and Statistics.

## **7. University of Cincinnati**

**Total credits: 30 credits minimum**

### **Required courses (23 credits)**

Financial Statement Analysis (included in FIN 636)

Econometrics for Finance (included in Fin 655)

The Theory of Financial Decision Making (included in FIN 633, FIN 634, FIN 653, FIN 654, FIN 656)

Equity Analysis (included in FIN 633 and FIN 634)

Fixed income (included in FIN 634)

Options and Futures (included in FIN 654)

Career Management (Shilder MSF program has internship component and Shilder provides excellent career development services)

Special Topics in Finance (included in FIN 660)

MS FIN Capstone (included in FIN 661)

### **Focus area (choose one, 2-3 credits)**

Financial Planning Capstone

Portfolio Management (included in FIN 653)

Risk Management of Financial Institutions (included in FIN 639 and FIN 656)

Advanced Capital Budgeting

Real Estate Development

**Electives (select 5-6 hours of elective courses. These can be in the finance/real estate area or another graduate business course, e.g, management, accounting, business analytics).**

## **8. University of Illinois Chicago**

**Total credits: 32 credits**

### **Required courses (12 credits)**

Investments (included in FIN 634)

Corporate Finance (included in FIN 633)

Quantitative Methods in Finance (included in FIN 655)

### **Selected elective courses (20 credits)**

Portfolio Analysis (included in FIN 653)

Theory and Structure of Options and Futures Markets (included in FIN 654)

Money and Banking (included in FIN 625 and FIN 639)

Capital Markets (included in FIN 625)

International Finance (similar to FIN 625)

Financial Decision Making I (included in FIN 633, 634, FIN 653, and FIN 656)

Special Topics in Finance (included in FIN 660)

Independent Study in Finance (included in BUS 695)

Financial Statement Analysis (included in FIN 636)

Corporate Valuation and Accounting Information (included in FIN 633, 634, and 636)

Business Research and Forecasting II (included in FIN 655)

## **9. University of Southern California**

**Total Credits: 36 credits**

**Required courses (22.5 credits; one 1.5-credit course and seven 3-credit courses)**

Communication for Management (1.5 credits)

Accounting Concepts & Financial Reporting (Shidler MSF program requires students to have two semester of accounting as prerequisite; we also offer an advanced course FIN 636)

Microeconomics for Management (Shidler MSF program requires students to have two semesters of economics as prerequisites)

Corporate Finance (Shilder MSF program requires students to have one semester of Corporate Finance as prerequisite; we also offer an advanced course FIN 633)

Quantitative Methods in Finance (included in FIN 655)

Financial Analysis & Valuation (included in FIN 636)

Investment Analysis and Portfolio Management (included in FIN 634 and FIN 653)

Corporate Financial Policy & Corporate Governance (included in FIN633)

**Selected elective courses (13.5 credits; select four 3-credit electives and one 1.5-credit elective)**

Venture Capital and Private Equity (included in FIN 641)

Entrepreneurial Finance: Financial Management for Developing Firms (included in FIN 641)

Applied Finance in Fixed Income Securities (included in FIN 634)

Hedge Funds (included in FIN 653)

Management of Financial Risk (similar to FIN 656)

Behavioral Finance (included in FIN 633 and FIN 656)

Special Topics (similar to FIN 660)