Master of Software Development, MSD

Program Description

The Master's Degree in Software Development (MSD) is a hyflex, comprehensive pivot degree program designed to meet the unique needs of adult learners with no prior programming experience. This program is an ideal choice for individuals seeking a career pivot toward careers in software development. This pivot degree option represents a strategic educational pathway tailored for individuals looking to make a significant shift in their professional careers. Its primary goal is to bridge a crucial gap in the industry by providing specialized training for software developers, thereby unlocking high-paying job opportunities for those with limited technical backgrounds.

Our goal in developing this degree is to design a program that can quickly upskill students from non-CS disciplines and qualify them for high-paying, high-demand jobs in the tech sector. We evaluated a number of possible formats (A.S., B.S. Certificate, etc.) and feel that a Master's of Software Development degree (not a Master of Science) could take students from a variety of disciplines and give them a marketable skill set while also allowing them to highlight their complete academic work (for example a student with a B.S. in communication can market soft skills acquired in a B.S. degree while also highlighting their skillset in software development). We were careful in our language and selected a Master's in Software Development, which we believe effectively communicates the appropriate skill set of graduates over more advanced fields such as software engineering and computer engineering.

A strength of this program is its unique integration with a Master of User Experience Design (UXD). Within industry settings, software developers frequently collaborate with user experience designers. Utah Tech is also proposing a Master of UXD, and both programs foster regular interactions and collaborative projects between students to closely mirror industry settings.

This Master's Degree in Software Development will be offered in a hyflex modality, providing students with flexibility in their learning journey. This unique blend of hyflex learning ensures a comprehensive and enriching educational experience, enabling a smooth career pivot for individuals aspiring to enter the dynamic field of software development. Pivot degrees like this are crucial in empowering career changers to transition successfully into new professions, expanding their horizons and job opportunities.

Admission Requirements

One of the major differences between being admitted to the MSD program and traditional computer science programs is that students with little or no computer science or related backgrounds may be admitted. However, the applicants to the MSD program must exhibit critical thinking and the ability to reason mathematically and logically through undergraduate or higher-level courses, for example, Calculus, Probability Theory, Linear Algebra, or Statistics (examples of courses at Utah Tech University that would satisfy this requirement include MATH 1040, 1100, 1210, 2200, 2210, 2270, or 3400). We anticipate that most students with an undergraduate degree may already have met these requirements.

All students entering the program will be assessed for coding acumen. Should a student lack the necessary skills to start the program, we will provide a coding primer prior to the start of the program that provides support and training for all students entering the program to start with relatively the same skill set. This primer experience will be free and take place before the start of the fall semester. We have eliminated the use of Pluralsight courses, which USHE peers had concerns about, and will instead use faculty resources to engage with students. The purpose of the pre-program coding primer is to ensure that all students enter the program with the same basic understanding of programming and are able to move through the program at the same pace. The core of the proposed degree will still be programming, and remediation will be offered to students who need additional support to ensure success in the degree.

The MSD program admission process and requirements are as follows:

1. Complete the MSD Online Application
2. One statement-of-purpose essay describing the applicant's intent and goals for joining the program.
3. Three Letters of Recommendation
4. Resume
5. Video submission
6. Transcripts/GPA: Official transcripts from each institution will be required. A minimum cumulative 3.0 undergraduate GPA is required for admission. The transcripts should include courses that demonstrate the ability to reason mathematically and logically.

Program Curriculum

30 credits

Code	Title	Hours
Required Courses		
SD 6100	Fundamentals of Programming	3
SD 6110	Foundations of UI/UX Design	3
SD 6200	Multitier App Development I	3
SD 6210	Tech Entrepreneurship	3
SD 6220	Software Development Practices	3
SD 6300	Multitier App Development II	3
SD 6310	Software Quality and Testing	3
SD 6400	Advanced Topics in App Development	3
SD 6450	Graduate Capstone	3
Electives		
Choose one of the following courses:		
SD 6330	Mobile App Development for Android	3
SD 6340	Mobile App Development for iOS	3

Graduation Requirements

1. Complete the required 30 hours of coursework.
2. Receive at least a 3.0 GPA for the entire program.
3. Receive no less than a B- in any of the program courses.
4. Receive a B grade or higher on the MSD Project.