

Proposal for Concurrent Degree Program: Bachelor of Science in Software Engineering / Master of Science in Information Systems

Name of the programs/Degrees:

The Department of Information Systems and Business Analytics at the Ivy College of Business seeks approval for a concurrent Master of Science in Information Systems (MSIS) degree for undergraduate students in the Bachelor of Science in Software Engineering at the College of Engineering.

Name of the department(s) which administer(s) the program:

Department of Information Systems and Business Analytics, Ivy College of Business

Department of Electrical and Computer Engineering, College of Engineering

Rationale for the concurrent degree program:

The MSIS program is a popular option for high-achieving undergraduate students seeking further specialization in the field of information systems. In addition, the program's STEM-designation makes it particularly attractive to international students interested in the three-year OPT. While a wide variety of business and non-business majors are enrolled in the MSIS degree, Software Engineering graduates are an especially well-fitting demographic to enroll in the MSIS program.

Ivy recruiters and the graduate staff routinely receive inquiries from undergraduate students wanting to get a head start on the MSIS degree program while completing their undergraduate degree. Offering a concurrent option would allow software engineering undergraduate students a faster, and potentially less expensive, path to graduate degree completion.

The Ivy College of Business has a long history of thriving concurrent degree programs. We offer 23 concurrent programs for our Master of Business Administration as well as a successful concurrent program for undergraduate accounting students in the Master of Accounting. We anticipate that the concurrent option will significantly increase the popularity of the MSIS degree among undergraduate students.

Admission procedures and requirements

The concurrent Master of Science in Information Systems is designed to be completed in two semesters. In the first four years, students progress through their prescribed course requirements. Their final year is comprised of the remaining major course work and graduate-level MSIS classes. Students may graduate, having completed their BS degree requirements, in semester one of the concurrent degree.

The appendixes illustrate a sample two-semester study plan for the MSIS concurrent program under the 2021-2022 Catalog. While the program can be completed in two semesters, the actual time to completion may be longer depending upon semester course loads, coops/internships, study abroad experiences, and course sequencing.

Degree requirements for the BS in Software Engineering and the MSIS are unchanged in the proposed concurrent degree. The BS in Software Engineering requires a minimum of 125 credit hours, and 30 credit hours, respectively. The concurrent program requires a minimum of 149 credit hours including six credit hours applied toward both the BS in Software Engineering and the MSIS degrees.

The MSIS is a rigorous 2-semester program, and admission is selective. Each candidate is evaluated first based on transcripts, resume, and the student submitted essays. In addition, applicants must also satisfy the Graduate College admissions requirements: English Placement Test and a 3.00 minimum GPA.

Software Engineering undergraduate students interested in the concurrent degree program must apply to the MSIS degree no later than July 1 the summer prior to their senior year. MSIS admission is considered for fall Semester and Spring entry.

The following application materials are required:

Application for an ISU Undergraduate Student Wishing to Pursue a Concurrent Graduate Degree

- Official transcripts
- Letters of recommendation (2)
- Essays (1)
- Resume
- Expected Enrollment

Financial Assistance

Depending upon funding availability, scholarships may be available to admitted MSIS students who meet the eligibility requirements. Graduate assistantships are extremely competitive but may be awarded to highly qualified students in the fifth year of concurrent degree program.

Expected enrollment

10 students annually.

Proposal Contact

Dr. Rui (Ray) Chen

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Academic Program Approval Voting Record

This document is to be appended as the last page of the proposal for any new or revised academic program to record the successive votes of approval as the proposal moves through its required review and approval steps. Consult Faculty Handbook Section 10.8 or the Faculty Senate Curriculum Committee website for information regarding Committee review and voting requirements for each action.

Curricular Action: (check appropriate boxes below)

1. New Program Name Change Discontinuation Concurrent Degree for: SE and MSIS

2. Undergraduate Major Graduate Major Undergraduate Minor Graduate Minor
 Undergraduate Certificate Graduate Certificate Other: Dual-Degree

3. Name of Proposed Change: Concurrent MSIS with SE

4. Name of Contact Person: Valentina Salotti e-mail address: vsalotti@iastate.edu

5. Primary College: Ivy College of Business Secondary College:

6. Involved Department(s): Information System and Business Analytics, Ivy College of Business
Department of Electrical and Computer Engineering, College of Engineering

Voting record for this curricular action:

Voting Body	Votes			Date of Vote
	For	Against	Abstain	
ISBA (Information Systems & Business Analytics) Department	15	0	0	10/3/2022
Software Engineering faculty vote	11	0	0	9/12/2022
SE Curriculum Committee	4	0	0	9/12/2022
Ivy College Curriculum Committee	6	0	0	10/10/2022
College of Engineering Committee	7	0	0	11/5/2022
Ivy College Approval Vote	81	3	0	10/21/2022
Engineering College Approval Vote	112	4	9	11/18/2022
Graduate Council				

**Concurrent B.S. Software Engineering and Master of Information Systems
Program Plan**

IOWA STATE UNIVERSITY
Ivy College of Business

Dr. Charles B. Handy Graduate Programs Office
1420 Gerdin Business Building
busgrad@iastate.edu | 515-294-8118
ivybusiness.iastate.edu/masters

BE SE + MSIS Sample Program Plan

Semester 1: Fall	Credits	Semester 2: Spring	Credits
MATH 165: Calculus I	4	COM S 227: Object-oriented Programming	4
ENGL 150: Critical Thinking and Communication	3	MATH 166: Calculus II	4
SE 101: Orientation	R	SE 166: Careers in SE	R
LIB 160: Introduction to College Level Research	1	PHYS 231 and PHYS 231L: Classical Physics I	5
CHEM 167 or 177: General Chemistry	4	Economics Elective	3
SE 185: SE Problem Solving	3		
TOTAL	15	TOTAL	16
Semester 3: Fall	Credits	Semester 4: Spring	Credits
CPR E 281: Digital Logic	4	SE 319: User Interfaces	3
ENGL 250: Written, Oral, Visual & Electronic Comp.	3	COM S 327 or CPR E 288: Advanced Prgramming	3
MATH 267: Differential Equations and Laplace	4	MATH Elective	3
COM S 228: Data Structures	3	General Education Elective	3
SP CM 212: Fundamentals of Public Speaking	3		
TOTAL	17	TOTAL	12
Semester 5: Fall	Credits	Semester 6: Spring	Credits
SE 309: Software Development	3	SE 317: Software Testing	3
COM S 363: Introduction Databases	3	SE 339: Software Architecture	3
CPR E 310 or COM S 230: Discrete Comp. Structures	3	CPR E 308 or COM S 352: Operating Systems	3
CPR E 381 or COM S 321: Computer Architecture	3	COM S 311: Algorithms	3
General Education Elective	3	ENGL 314 or 309: Technical Writing	3
TOTAL	15	TOTAL	15
Semester 7: Fall	Credits	Semester 8: Spring (Apply for MSIS)	Credits
STAT 330: Probability and Statistics for COM S	3	Supplemental Elective	3
SE 421: Software Security	3	Supplemental Elective	3
SE Elective	3	General Education Elective	3
Supplemental Elective	3	Open Elective	3
General Education Elective	3		

**Concurrent B.S. Software Engineering and Master of Information Systems
Program Plan**

TOTAL	15	TOTAL	12
Semester 9: Fall (Begin concurrent program)	Credits	Semester 10: Spring	Credits
SE 491: Senior Design I*	3	SE 492: Senior Design II	2
MSIS Core: MIS 501: Information Systems	3	SE Elective*	3
MSIS Choice: MIS 536: Business Analytics Foundation	3	MSIS CORE: MIS 599: Creative Component	3
MSIS Choice: MIS 533: Data Management	3	MSIS Choice: MIS 538: Business Process Systems	3
MSIS Elective	3	MSIS Elective	3
		MSIS Elective	3
TOTAL	15	TOTAL	17
Program Notes			
BS SE/MSIS Concurrent Program Summary	Credits		
BS SE	119		
MSIS Core	6		
MSIS Choice	9		
MSIS Electives	9		
BS SE/MSIS shared credit	6		
TOTAL	149		
<i>Optional Thesis includes 6 credits of MIS 699, taking total credits to 149 cr. Students pursuing thesis option must petition to waive MIS 599.</i>			
<i>MSIS is a STEM designated program</i>			
<i>Optional Practical Training (OPT) work permit for up to 36 months after graduation</i>			
<i>*Students may work with the MSIS DOGE to select alternative 400-level SE coursework, if needed.</i>			