

# MSIT - SEM

Master of Science in Information Technology -  
Software Engineering Management

<http://www.mse.cs.cmu.edu/sem/>

Philip Miller, PhD

SEI Proprietary



Software Engineering Institute

Carnegie Mellon

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# Presenter: Phil Miller

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2005 - Joined the SEI. Responsible for Internet learning, Mexican TSP Initiative, MSIT-SEM.

1998 - 2005 Co-founded iCarnegie Inc. a Carnegie Mellon University educational affiliate.

1979 -1997 Computer Science at Carnegie Mellon. Freshman programming. NSF researcher. Founder, Center for Art and Technology. Chairman - College Board's Advanced Placement Computer Science.

1976 -1979 Asst. Prof. Computer Science, Statistics, and Political Science - West Virginia University.

1975 - Ph.D. Ohio State University

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# A world-class degree program preparing tomorrow's software engineering managers

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## Master of Science in Information Technology, Software Engineering Management (MSIT-SEM)

- ideal for working professionals who want to excel as managers responsible for acquiring, integrating, or developing software
- provides technical, business, and management training
- incorporates academic courses from Carnegie Mellon University's Heinz School and School of Computer Science
- incorporates professional courses from the Carnegie Mellon Software Engineering Institute
- flexible part-time and distance format
- incorporates practicum for valuable experience through a real-world project
- ideal for acquisition programs within the US service branches



# Carnegie Mellon University: A world leader

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- Heinz School: #1 graduate school of Information and Technology Management in the nation.
- School of Computer Science and Institute for Software Research: #1 in the nation in software and among the leading institutions across the breadth of the discipline.
- Software Engineering Institute: Globally acclaimed as the leader of software engineering and globally recognized as the home of CMMI, the de facto standard for measuring process maturity in software-intensive organizations.



# The students

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## Managers and aspiring managers in software intensive organizations.

- Must have baccalaureate degree and 5 or more years of work experience in programming and/or software development.
- Must submit Graduate Record Examination scores, a college transcript, and evidence of professional experience.
- Must submit complete application by February 1, 2009 for admission to the Fall 2009 class.



# The program: Skills for the complete professional

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- Technical, management, and business training through distance learning courses, in-person courses, and a practicum component
- 3-year program
- 4 - 9 weeks in attendance at Carnegie Mellon
- 150 units of Carnegie Mellon graduate credit
- 8 SEI professional courses resulting in 1 or 2 SEI certificates
- Practicum: 42 Carnegie Mellon units of guided application of MSIT principles in a real-world setting

# Sample curriculum

	Course Name	Delivery	Academic Credits				Days
			Elect	Heinz	Pract	SCS	SEI
Year 1: Fall	Introduction to CMMI Version 1.2	Carnegie Mellon					3
	Methods of Software Development: Deciding What to Design	distance				12	
	Organizational Management	distance		6			
Year 1: Spring	Mastering Process Improvement	Carnegie Mellon					5
	Managing Software Development	distance				12	
	Digital Transformation	distance		6			
Year 1: Summer	Intermediate Concepts of CMMI Version 1.2	Carnegie Mellon					5
	Architectures for Software Systems	distance				12	
	Statistics for IT Managers	distance		6			
Year 2: Fall	One Year Reorientation – Practicum Initiation	Carnegie Mellon			6		
	Economic Analysis	distance		6			
	Financial Accounting	distance		6			
	Understanding CMMI High Maturity Practices	Carnegie Mellon					4
Year 2: Spring	Software Product Lines	Carnegie Mellon					2
	Negotiation	distance		6			
	MSIT-SEM Practicum				6		
Year 2: Summer	Distance Elective(s)	distance	12				
	MSIT-SEM Practicum	distance			3		
	Adopting Software Product Lines	Carnegie Mellon					2
Year 3: Fall	Developing Software Product Lines	Carnegie Mellon					2
	Distance Elective(s)	distance	12				
	MSIT-SEM Practicum	distance			6		
Year 3: Spring	Software Acquisition Survival Skills	Carnegie Mellon					3
	Distance Elective(s)	distance	12				
	MSIT-SEM Practicum				6		
Year 3: Summer	MSIT-SEM Practicum	distance			12		
	Practicum Presentation Week	Carnegie Mellon			3		

## Program Totals:

- 150 academic credits from Heinz School, School of Computer Science, and practicum component
- 8 courses ranging from 20 to 40 professional course days
- minimum of 4 weeks at Carnegie Mellon for orientation and practicum presentations



# Benefits for students and their organizations

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## Student

- World class master's degree.
- Flexible learning options that allow for earning a degree from student's location.
- Access to expertise at Carnegie Mellon University and the Software Engineering Institute.

## Student's Organization

- Staff members with the skills and knowledge to lead their teams to achieving business goals.
- Students remain in their current jobs while earning a degree.
- Opportunity to develop deep expertise in SEI methodologies.



# Tuition for the MSIT-SEM program

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College	Program	Units	Tuition PT	Tuition FT
<i>multiple</i>	<b>MSIT-SEM</b>	<b>150</b>	<b>\$65,000</b>	<b>X</b>
SCS	MSE	189 - 198	\$87,516	\$65,000
Heinz	MSIM	180	\$69,120	\$54,000
Heinz	MSIT	144	\$51,840	\$54,000
CIT	MSIN	171	X	\$68,000
Tepper	MBA	192	\$95,040	\$91,000

- About the same as Computer Science and Engineering degrees
- More expensive than some Heinz degrees
- Less expensive than an MBA from Carnegie Mellon's Tepper School

# How the SEI is involved

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The SEI collaborated on the conception of this program.

The SEI is leading publicity and recruitment efforts for this program.

The curriculum, while broad, is tied together through the SEI certificates, professional courses, and the practicum.



# MSIT-SEM program contact information

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## MSIT-SEM Web Site

<http://www.mse.cs.cmu.edu/sem/>

## Phil Miller, PhD

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## SEI Customer Relations (general inquiries)

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