

CMSC 735**Fall '02****Tentative Class Schedule**

Date	Topic	
Sep 3	Motivation, Empirical Software Engineering	VB
Sep 5	Models and Measures Background	VB
Sep 10	Models and Measures (Resources)	VB
Sep 12	Models and Measures (Resources)	
Sep 17	Models and Measures (Product)	VB
Sep 19	Models and Measures (Product)	ML
Sep 24	Models and Measures (Changes & Defects)	VB
Sep 26	Models and Measures (Process) (Other)	VB
Oct 1	Lecture on Requirements Reading Procedures/Observation	JC
Oct 3	Lecture on Requirements Reading Procedures/Observation	JC
Oct 8	Models and Measures (Process) (Other)	VB
Oct 10	Measurement Frameworks (Goal/Question/Metric Paradigm)	VB
Oct 15	Measurement Frameworks (Goal/Question/Metric Paradigm)	VB
Oct 17	Measurement Frameworks (Goal/Question/Metric Paradigm)	VB
Oct 22	Organizational Frameworks (Quality Improvement Paradigm, Experience Factory)	VB
Oct 24	Organizational Frameworks (Quality Improvement Paradigm, Experience Factory)	VB
Oct 29	Organizational Framework (QIP, EF, PDCA, CMM, ...) Experimentation)	VB
Oct 31	Experimentation Threats to Validity	VB
Nov 5	Experimentation Experimental Designs	VB
Nov 7	Experimental Methods (Sample Experiments)	VB
Nov 12	Experimental Methods (Sample Experiments)	VB
Nov 14	Experimental Methods (Sample Experiments)	VB
Nov 19	Experimental Methods (Sample Experiments), Combining Experiments	VB
Nov 21	Combining Experiments	FS
Nov 26	Review of the Class Experiment	VB/JC
Nov 28	NO CLASS (Thanksgiving)	
Dec 3	NASA/SEL as an Experience Factory	VB
Dec 5	CMMI	MS
Dec 10	Example Empirical Studies (Resource Modeling, Defect Analysis)	VB
Dec 12	Building an Experimental Experience Base	VB

Instructor: Professor Victor R. Basili**Meeting Times:** TTh 9:30-10:45AM

Text: Experimental and Quasi-Experimental Designs for Research by Donald Campbell and Julian Stanley (1966)

The Goal/Question/Metric Method by Rini van Solingen and Egon Berghout (1999)

Copies of slides will be made available on a web site.
www.cs.umd.edu/class/fall2002/cmssc735/index.htm

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Office Hours: TTh 11:00 – 12:00pm, and by appointment

Homework: There will be graded homework assignments applying the concepts learned and searching, reading, analyzing the literature

Exams: There will be a final exam

Supplementary Outside Reading for CMSC 735

- Bache & Bazzana, Software Metrics for Product Assessment, McGraw Hill, 1994.
- Basili, A Quantitative Approach to Software Management and Engineering, Draft Notes, 1994.
- Basili, Models and Metrics for Software Management and Engineering, IEEE Computer Society Press, 1980.
- Boehm, Software Engineering Economics, Prentice Hall, 1981
- Boehm, et. al., COCOMO II, Prentice Hall, 2001.
- Conte, Dunsmore, & Shen, Software Engineering Metrics and Models, Benjamin/Cummings, 1986.
- DeMarco, Why Does Software Cost So Much, and other puzzles about the Software Age, Dorset House Publishing, 1995.
- Fenton & Pfleeger, Software Metrics: A Rigorous and Practical Approach, PWS Publishing Company, 1997
- Garmus & Herron, Measuring the Software Process, A Practical Guide to Functional Measurements, Yourdan Press Computing Series, 1996.
- Grady & Caswell, Software Metrics: Establishing a Company-Wide Program, Prentice-Hall, 1987.
- Grady, Practical Software Measurement for Project Management and Process Improvement, Prentice Hall, 1992
- Hetzel, Making Software Measurement Work: Building an Effective Measurement Program, QED Publishing Group, 1993.
- Humphrey, Introduction to the Personal Software Process, SEI Series in Software Engineering, 1997.
- Paulk, et. al. The Capability Maturity Model, Guidelines for Improving the Software Process, SEI Series in Software Engineering, 1995.
- Putnam & Myers, Measures for Excellence, Yourdan Press, 1992.
- Wohlin, Claes, et.al., Experimentation in Software Engineering: An Introduction, Kluwer Academic Publishers, 2000.