

**Place & Time** TTH 2:00PM – 3:15PM

**Credit** 3 Hours

**Instructor** Dr. James D. Arthur  
610 McBryde Hall; Tel.: 231-7538; E-mail: arthur@vt.edu  
Office hours: TBA; and by appointment

**TA** TBA

**Required Text** Steven R. Rakitin, “Software Verification and Validation for Practitioners and Managers”, 2<sup>nd</sup> Edition, 2001

**Course Description** V&V has come to represent a rigorous approach to ensuring the production of high quality, reliable software that meets its stated requirements.

The content of this course will focus on the need for and application of verification and validation techniques to the various stages of the software development cycle. In particular, instruction, presentations and project will focus on:

- The rationale behind the evolution of V&V procedures,
- V&V applied to the Software Development LifeCycle,
- Tools and techniques used in carrying out the V&V process,
- The role, tools and techniques for *independent* V&V

**Grading** The course grade will be computed as follows:

Project .....	40%
Requirements evaluation/presentation .....	20%
Design evaluation/presentation .....	20%
Research paper presentations .....	25%
Short Quizzes (10-15 mins.) .....	25%
Class Participation .....	10%

For group projects, peer evaluations will be requested by each group member for each member in a given group.

The standard 90/80/70/60 grade scale will be used. +’s and –’s are given.

## Assignments

- Readings (Rakitin & Papers)
- Project development, analysis and presentation (by group)

## Attendance

Full attendance is expected. Cases of illness or emergencies which make it impossible to attend class should be reported to me as soon as possible. You are responsible for all material covered. If you must miss a class make arrangements with another student to get the material.

## Honor System

All work is to be done under the provisions of the Virginia Tech Honor System.

## Reference Materials

- [LEW92] Lewis, R.O., *Independent Verification and Validation*, Wiley – Interscience, 1992
- [DEU82] Deutsch, Michael S., *Software Verification and Validation: Realistic Project Approaches*, Prentice-Hall, Inc., Englewood Cliffs, NJ, 1982.
- [EBE93] Ebenau, Robert G. and Susan H. Strauss, *Software Inspection Process*, McGraw-Hill, Inc. New York, NY, 1993.
- [FRE90] Freedman, Daniel O., *Walkthroughs, Inspections, and Technical Reviews: Evaluating Programs, Projects, and Products*, Dorset House Publishing Co., Inc., New York, NY, 1990.
- [GAU89] Gause, Donald C. and Gerald M. Weinberg, *Exploring Requirements: Quality Before Design*, Dorset House Publishing Co., Inc., New York, NY, 1989.