COEN 6551 Grading Scheme

- Test #1: 30%
- Test #2: 30%
- Project: 40%
COEN 6551 Grading Scheme

- Tests: 60%
- Project: 40%
COEN 6551: Project Grading Scheme

► Project (40%)
  - 60% Project Report
  - 20% Project Presentation
  - 10% Participation (Peer Evaluation)
  - 10% Project Demo (TA’s Evaluation)
COEN 6551: Project Report

- max. 20 pages (w/o code)
1. Description of system behavior and function using state machines, block diagrams or circuit structures.
2. RTL synthesis using Synposys Design Compiler
3. RTL-gate level Equivalence Checking
4. Gate-gate level Equivalence Checking (bug hunting)
5. Description of Verification process in Synopsys Formality/Cadence Conformal
6. Analysis of verification results
7. Conclusions (Comments and Challenges)
COEN 6551: Project Presentation

- Poster incl. Q&A
  1. System behavior and function
  2. RTL Synthesis
  3. Equivalence Checking (RTL-gate/gate-gate)
  4. Verification process
  5. Analysis of results
  6. Comparison Conformal vs. Formality
  7. Conclusions (Comments and Challenges)
  8. Poster Quality
  9. Answering Questions
COEN 6551: Project Peer Evaluation

- Private Comments on Team members
  - Cooperation
  - Conceptual Contributions
  - Practical Contributions
  - Work Ethic
- Scores out of 7 (1 being the lowest)
  - Evaluations with “only” 7 will be VOID
- Only average will be displayed (no individual scores)
COEN 6551: Project Peer Evaluation

- **On-line at** [https://pes.concordia.ca](https://pes.concordia.ca)

- **Comments** made about individual group members are seen by their peers, but are listed anonymously.

- Only the professor can see the **identity** of the author of individual comments.

- Private **comments** for the professor will not be shown to the students.
Confirmation of Originality
Faculty of Engineering and Computer Science

Course Name & Number/Term: ___________________________ Section: ___________ Instructor: ___________________________

Having researched and prepared this report for submission to the Faculty of Engineering & Computer Science, the undersigned certify that the following statements are to the best of my/our knowledge true:

1. The undersigned have written this report myself/themselves.
2. This report consists entirely of ideas, observations, references, information and conclusions composed or paraphrased by the undersigned, as the case may be, except for statements contained within quotation marks and attributed to the best of my/our knowledge to their proper source in footnotes or otherwise referenced.
3. With the exception of material in appendices, the undersigned have endeavored to ensure that direct quotations make up a very small proportion of the attached report, not exceeding 5% of the word count.
4. Each paragraph of this report that contains material which the undersigned have paraphrased from a source (print sources, multimedia sources, web-based sources, course notes or personal interviews, etc), has been identified by numerical reference citation.
5. All of the sources that the undersigned consulted and/or included in the report have been listed in the Reference section of the report.
6. All drawings, diagrams, photos, maps or other visual items derived from sources have been identified by numerical reference citations in the caption.
7. Each of the undersigned has revised, edited and proofread this report individually.
8. In preparing this report the undersigned have read and followed the guidelines found in Form and Style, by Patrick MacDonagh and Jack Borden (Fourth Edition: May 2000), available at http://www.encs.concordia.ca/scs/Forms/Form&Style.pdf.

Name: ___________________________ ID No: ___________ Signature: ___________________________ Date: ___________

Name: ___________________________ ID No: ___________ Signature: ___________________________ Date: ___________

Name: ___________________________ ID No: ___________ Signature: ___________________________ Date: ___________

Name: ___________________________ ID No: ___________ Signature: ___________________________ Date: ___________

Name: ___________________________ ID No: ___________ Signature: ___________________________ Date: ___________

Name: ___________________________ ID No: ___________ Signature: ___________________________ Date: ___________

Do Not Write in this Space – Reserved for Instructor
COEN 6551: Project Deadlines

► Project Groups:
  - Wednesday May 9, before class!
  - Email group names to TA

► Project Assignments:
  - Thursday May 10
  - Posted on course Web page
COEN 6551: Project Deadlines

► Project Reports:
  - Monday June 11, before 5pm!
  - Drop in Mailbox of Dr. Tahar (EV05.175) or ECE Dept. Secretary in EV05.139

► Poster Presentations:
  - Wednesday June 13 at 11.45!
  - Classroom: H-431
COEN 6551: Project Deadlines

- **Project Demonstrations:**
  - Thursday & Friday June 14 & 15
  - Time and location to be scheduled with TA

- **Peer Evaluations:**
  - Wednesday to Friday June 13 to 15
  - On-line at [https://pes.concordia.ca](https://pes.concordia.ca)
COEN 6551: Test #1

- Wednesday May 16 at 11.45!
- Classroom: H-431
- Last Office Hour
  - Monday May 14 @ 10:30-11:30pm
- Topics ...
COEN 6551: Test #1 Topics

- Introduction
  - VLSI Design Flow
  - What’s verification
  - Verification Challenges
  - Types of Verification
  - Formal Verification (Techniques, Tools, Limitations, etc.)

- Equivalence Checking
  - Combinational Equivalence Checking (Principles, Tools)
  - Propositional Resolution, Stalmark Procedure, ROBDDS
  - Sequential Equivalence Checking (Principles, Re. Anal.)
  - Case Study (ATM Switch)

- **Material allowed**: Only Calculators (closed book!)
COEN 6551: Test #2

- Wednesday June 6 at 11.45!
- Classroom: H-431
- Last Office Hours
  - Monday June 4: 10:30-11:30
- Topics ...
COEN 6551: Test #2 Topics

► Model Checking
  ▪ Temporal Logics (LTL, CTL)
  ▪ Properties Specification
  ▪ Model Checking Algorithm
  ▪ Symbolic Model Checking
  ▪ Case Study (ATM Switch)

► Theorem Proving
  ▪ First and Higher-order Logics
  ▪ HOL Theorem Prover
  ▪ Hardware Modeling in HOL
  ▪ Hardware Verification in HOL
  ▪ Case Study (RISC Processor)

► Material allowed: Only Calculators (closed book!)
Good Luck 😊