Final Stretch to ECE Day (April 7)
Preparation

The journey is almost over and you'll jump soon

EECE404 Senior Design II
Electrical and Computer Engineering
Howard University

Instructor: Dr. Charles Kim

26th ECE Day (R 4/7) Program

- **08:00 – 08:30 Come to Lab for Moving stuffs to the Blackburn**
- **08:30 – 09:00 :Demo Table Set up at Room 148 & 150**

Department of Electrical and Computer Engineering

HOWARD UNIVERSITY

26th Annual ECE Day

April 7, 2016

A J Blackburn Center

Schedule of Activities

8:30-9:00 am Registration and Continental A La Carte Breakfast

9:00-9:20 am **Welcome & Overview –** *Hilltop Lounge*
Dr. Mohamed F. Chouikha, Chairman
Department of Electrical & Computer Engineering

Part A:
9:20-11:00 am Senior Design Presentation

Team 1: "Terminator Arm"
Project Title: "Inexpensive Prosthetic Arm"
Internal Advisor: Dr. John Anderson
Team Members: Mark Chase, Ayotunde Odejayi

Team 2: "Flex"
Project Title: "Flexible Solar Inverter"
Internal Advisor: Dr. Ahmed Rubaai
External Advisor: Mr. Carlton Blue
Team Members: Abenezer Hailu & Robert Mercer

Team 3: "Golden Snitch"
Project Title: "Golden Snitch – a toy drone"
Internal Advisor: Dr. Charles Kim
Team Members: Warren Dennis & Alphonzo St. Fleur

Team 4: "Intruder"
Project Title: "Hardware Trojan Detection"
Internal Advisor: Dr. Hassan Salmani
Team Members: Darren Earle, Amanuel, Getahun, & Taylor White

Team 5: "Slate8"
Project Title: "Sign Language to English"
Internal Advisor: Dr. Mohamed Chouikha
Team Members: Vanessa Galani & Michelle Warren

Team 6: "HU Telescope"
Project Title: "Measuring the Galactic Rotation"
Internal Advisor: Dr. Marcus Alfred (Physics Department)
Team Members: Jarrett Goddard & Marlon Smith

Team 7: "UCC"
Project Title: "Underwater Circuit Connector"
Internal Advisor: Dr. Mihai Dimian
External Advisor: Mr. Gregory West
Team Members: Jonathan Branscomb & Emmanuel Morrow

11:00-11:10 am **Break**

Part B:
11:10-12:00 pm **Poster Session –** *Rooms 148 & 150*

Part C:
12:00-1:20 pm **Lunch-***Hilltop Lounge*

Remarks & Introduction of the Keynote Speaker

1:20-2:00 pm Awards and Photo Session

2:00 pm ***Adjourn***

100/7 14.28

10 Presentation
4 Q&A

Charles Kim

Jump

ECE Day Format

- **Part A: Presentation (14-min presentation each)**
  - Formal presentation in the Forum
  - Presentation only, therefore, presentation needs some visual display of the final product with video clips for example

- **Part B: <u>Poster Board</u> + <u>Demonstration</u> (50 minutes)**
  - A table is assigned to each team
  - A poster board MUST be made and set
  - Place a demo system in front of the poster board

ECE Day Grading Sheet

PRESENTATION & DEMONSTRATION SCORE SHEET

* Instruction for judges: Please grade Sections A & B for the presentation, and Section C for the Demo and Poster Session.

Grading scale: Excellent(4) Good(3) Fair(2) Poor(1) Fail(0)

Name of Evaluator	

Senior Design focuses on experiencing all the phases of problem solving: Problem Formulation, Design Requirement under Constraints, Solution Generation and Top Design Selection, Implementation, and Evaluation. Also, Risk Identification and Management throughout the project period is encouraged.

Solar

	P1	P2	P3	P4	P5	
A1. Clear Description of Problem with Background and Needs						A. Problem Solving
A2. Well Defined and Quantified Design Requirements						
A3. Sound Technical Approach for Solution Generation						
B1. Professional Presentation with Direct Eye Contact						B. Technical Communication
B2. Demonstration of Full Knowledge of the Subject						
B3. Well Organized Topics and Contents with Good Visuals						
C1. Clear Explanation of the Essence of the Demonstration						C. Demonstration
C2. Satisfactory Level of System Integration for the Project						
C3. Does the System Meet the Design Requirements?						
Overall, give an extra point if you want {0 - 4}						Extra point
TOTAL						[40]

COMMENTS

(Use back side also if necessary)

Toward the Goal Line

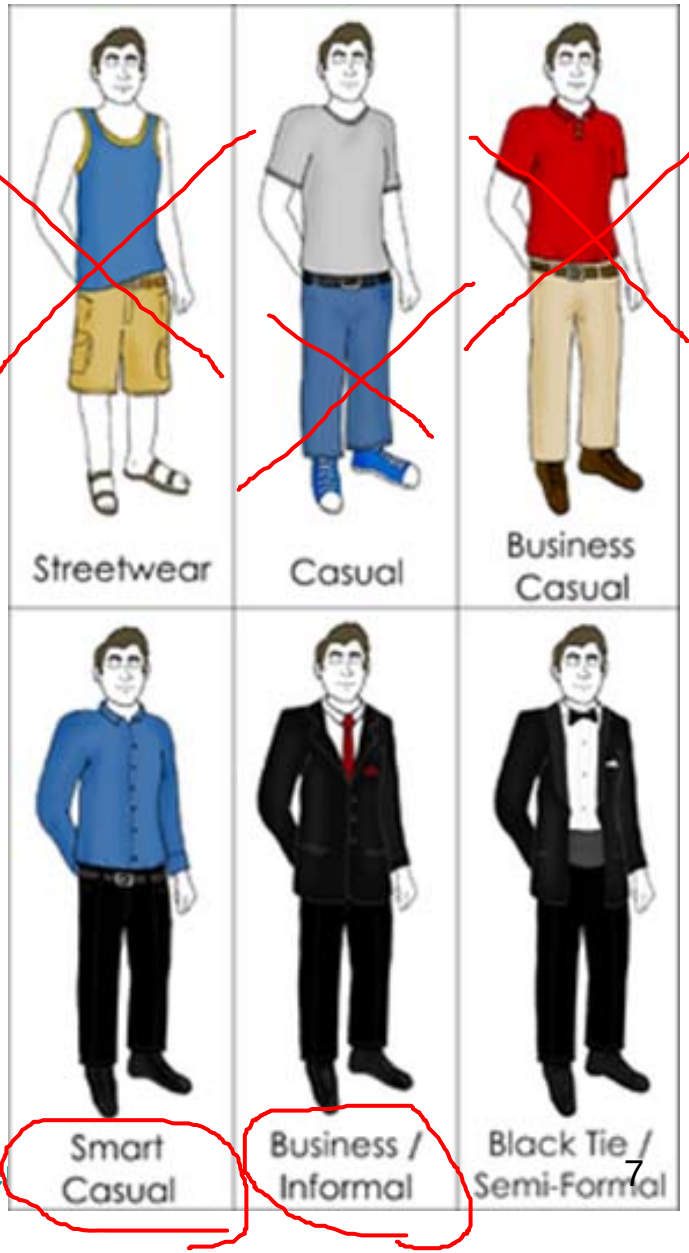
- W Mar 30: 3rd and the last Progress Presentation with **New Presentation Format** (will come in a few minutes)
- W April 6: Dress Rehearsal with Presentation (New Presentation Format) + Poster + Demo
- R April 7: 26th ECE Day (at Blackburn Center)

After the GGGGGGGoal !!!!

- W April 13:
  - No formal Class
- W April 20:
  - (a) Submission of Final Report in **Electronic Copy in MS Word format**
  - (b) Peer Evaluation (via email - same fillable pdf)
  - (c) Final Exam 2:00pm – 3:00pm
- F April 22:
  - (a) Items with missed deadline still may be submitted but with 20% deduction
  - (b)No submission accepted after this)
- M April 25
  - (a) Grade posting for PG
- TBD:
  - VIP Elevator Pitch Competition (for all who are NOT with the ECE Senior Design Class

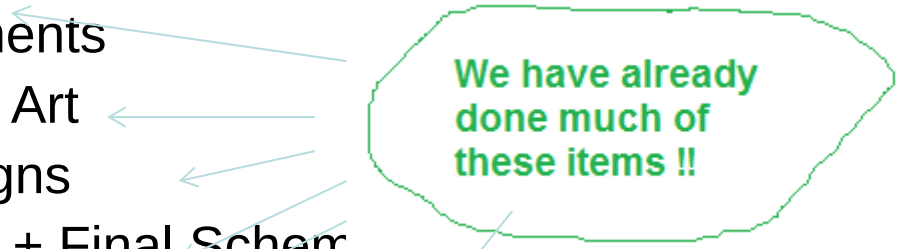
Dress Code

- Mar 30 Presentation
  - **Smart casual**
  - **Business casual**
- April 6 Dress Rehearsal for Presentation + Demo + Poster
  - **Business**
- April 9 ECE Day
  - **Business**



NEW Presentation Format

- Use this New Format from W Mar 30
- NEW Presentation Format (ECE Day presentation format)
  - Background
  - Problem Statement
  - Design Requirements
  - Current Status of Art
  - Conceptual Designs
  - Final Top Design + Final Schem
  - Project's Final Goal and Deliverables
  - Spring 2016 Target Goal and Deliverables
  - Implementation, Test, and Evaluation of the Design --- pictures, photos, figures, video clips, etc. [Major Components]
  - Resources and Budget
  - Conclusions and **Future Works** (for the next school year team members)



No highlights

No lowlights

No Risk Management

No Project Timeline and Milestones

Suggested Slide Sections - 1/2

1. **Cover (1 slide)**
   - Title and Members
2. **Background (1 - 2 slides)**
   - Background of the project (industry, technology, customer, etc)
   - Needs and demands in customer's point of view
3. **Problem Definition and Design Requirements (1-2 slides)**
   - Refined Problem Definition in Engineering point of view
   - Design Requirements: emphasis on constraints and rules and regulations
4. **Current Status of Art (1 - 2 Slides)**
   - Prior art and available technology, weakness, etc
5. **Solution Approach: Conceptual Designs + Top Design (2- 3 slides)**
   - Explanation of the solution with schematics and diagrams

Suggested Slide Sections - 2/2

6. **Project's Final Goal and Deliverables (1 slide)**
7. **Project's Spring 2016 Target Goal and Deliverables (1 – 2 slides)**
8. **Implementation, Testing, and Evaluation (4 - 5 slides)**
   - Assigned tasks for solution implementation
   - **Photos, screen shots, circuit diagrams**, etc, etc.
   - Testing of the integrated system
   - **Video clips**
9. **Costs and Resources and Budget (1 slide)**
   - Bill of parts
   - Resources used and provided
10. **Conclusions (1 slide)**
    - Crisp and clear summary of the presentation
11. **Future Works (1 slide)**
    - Advice, lessons learned, etc for the rising up team members

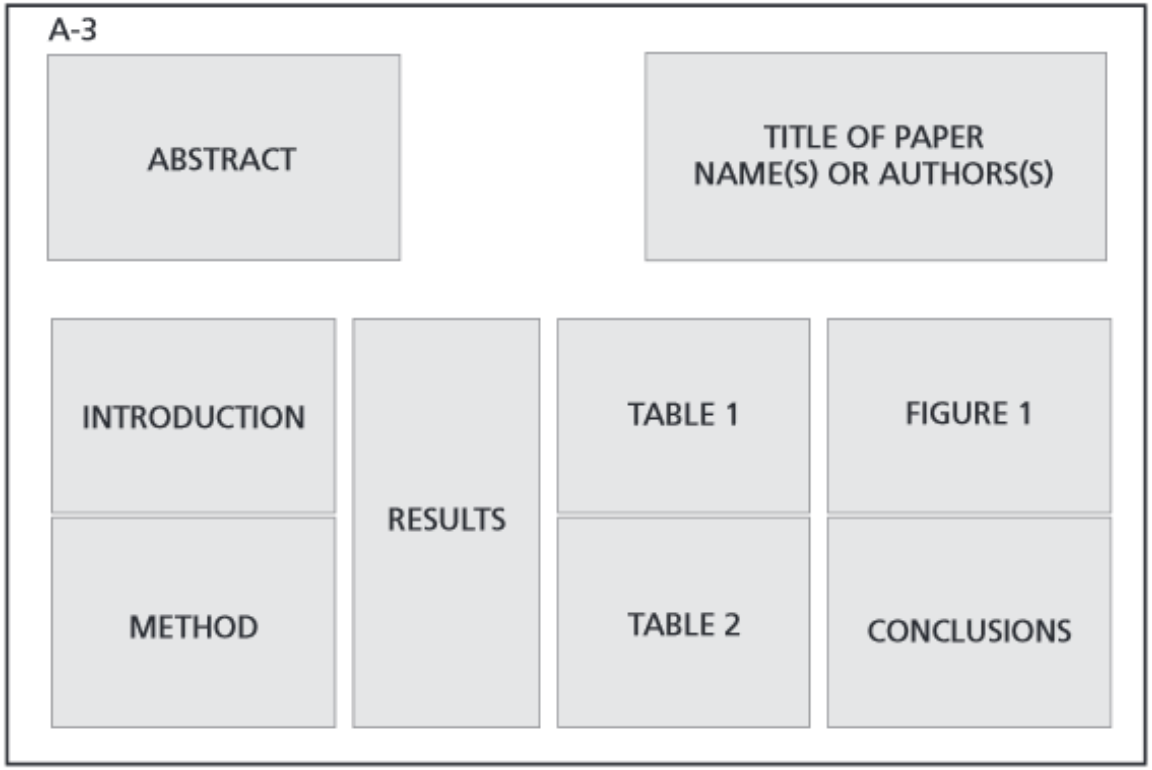
Team Presentation - Revisited

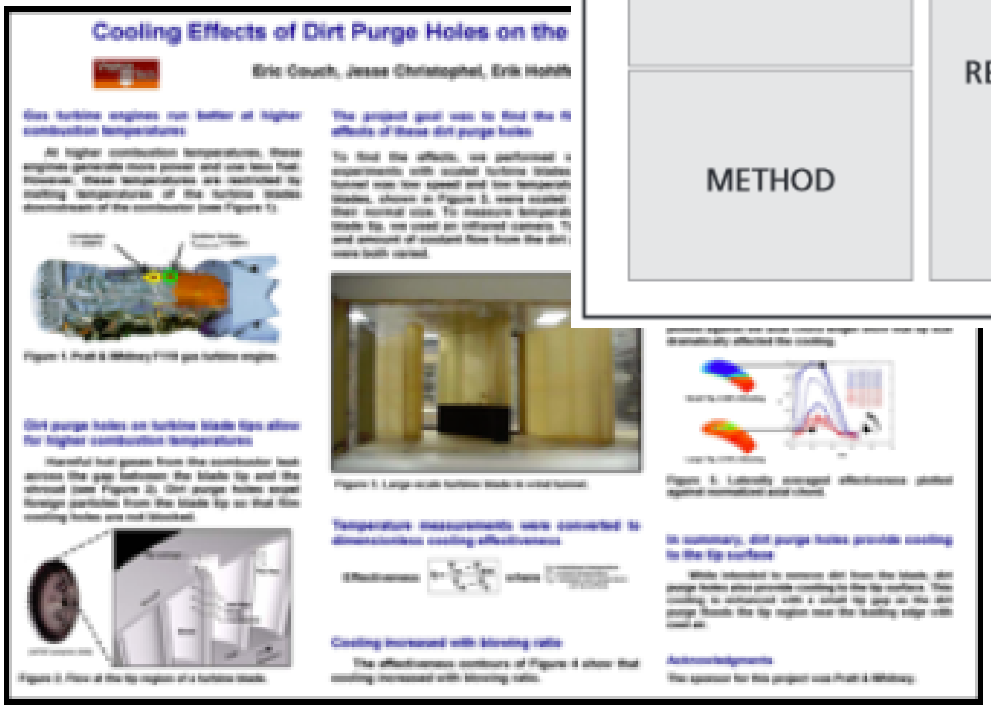
- **Tips**
  - Plan ahead and do practice, a lot.
  - Everyone should share the presentation
  - Smooth Transition from a presenter to another
    - A presenter should wrap up own segment,
    - then build a bridge that links what they said to the next presenter
  - <u>Decide Position and Roles in advance</u>
    - how you will position yourselves
    - who will be where and
    - what they will do while another member is speaking?
  - Make sure that
    - Everyone in the group is doing his/her share
    - Everyone performs well on his/her presentation part

Poster Preparation

- Poster should quickly orient the audience to the subject and purpose.
- Specific sections such as the results/conclusions should be easy to locate on the poster
- Design the individual sections of a poster so that they can be quickly read.

Poster Preparation




Cooling Effects of Dirt Purge Holes on the

Eric Couch, Jesse Christophel, Erik Hohlfe

Gas turbine engines run better at higher combustion temperatures

Dirt purge holes on turbine blade tips allow for higher combustion temperatures

The project goal was to find the ri effects of these dirt purge holes

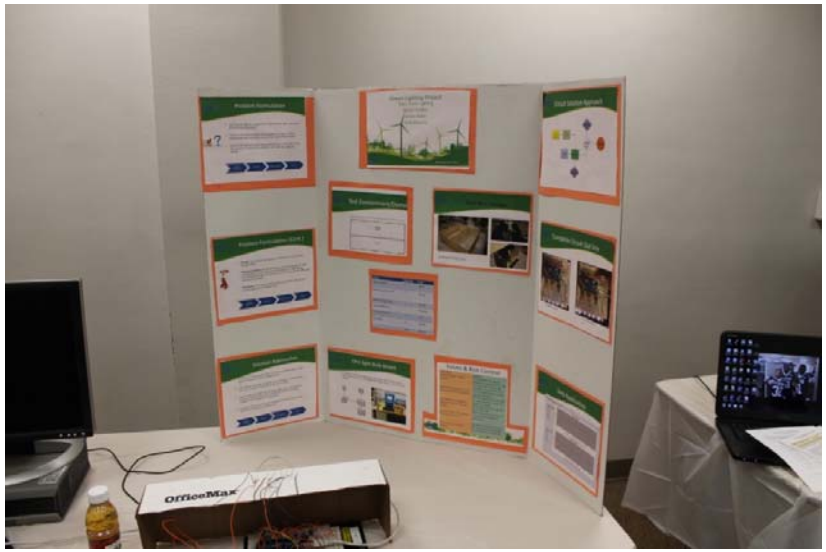
Temperature measurements were converted to dimensionless cooling effectiveness

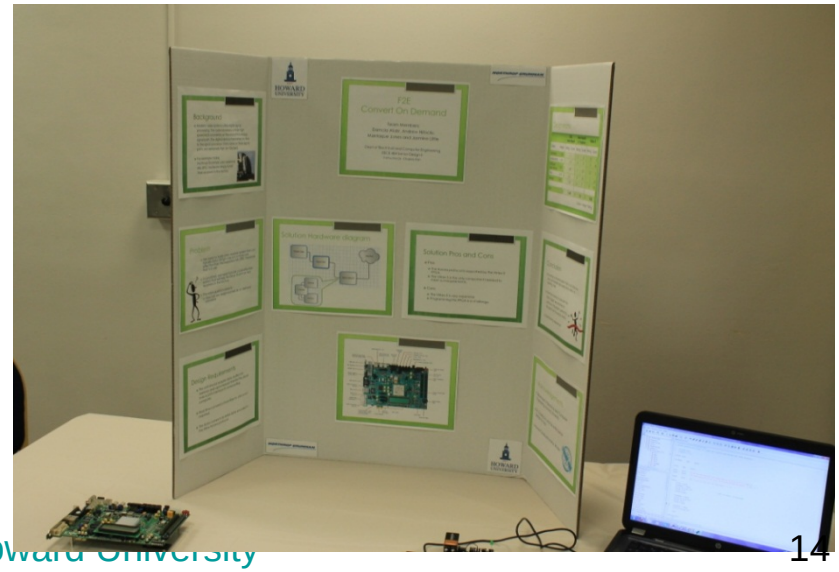
Cooling increased with blowing ratio

In summary, dirt purge holes provide cooling to the tip surface

Acknowledgments

Posters





Final Report Guideline - 1/2

- A final report in MS Word format should be submitted
- General editorial instruction
  - Single Column
  - Times New Roman 12 points
  - 1.5 Spacing
  - 1 inch margin in all 4 sides
  - Page number at the bottom center

Final Report Guideline - 2/2

- Report Sections
  - i. Cover Page
    - Project title, project team name, team members who wrote the report, date of the submission,
  - ii. Executive Summary
    - Concise summary of the report (try to write this section AFTER all the sections)
  - iii. Table of Contents
    - List of Sections with corresponding starting pages
  1. Introduction and Background
  2. Problem Statement
  3. Current Status of Art
  4. Design Requirements
  5. Solution Approaches and Top Design
  6. Project's Final Goal
  7. Project's Spring 2016 Target Goal
  8. Implementation, Testing, and Evaluation
  9. Conclusions
  10. Recommendation for Future works
  11. References
  12. Source Code Listing
  13. Appendix

Schedule - Summary

- **W Mar 30:**
  - 3rd and the last Progress Presentation with **New Presentation Format** (will come in a few minutes)
- **W April 6:**
  - Dress Rehearsal with Presentation (New Presentation Format) + Poster + Demo
- **R April 7:**
  - 26th ECE Day (at Blackburn Center)
- **W April 13:**
  - No formal Class

- **W April 20:**
  - (a) Submission of Final Report in **Electronic Copy in MS Word format**
  - (b) Peer Evaluation (via email - same fillable pdf)
  - (c) Final Exam 2:00pm – 3:00pm
- **F April 22:**
  - (a) Items with missed deadline still may be submitted but with 20% deduction
  - (b)No submission accepted after this)
- **M April 25**
  - (a) Grade posting for PG
- **TBD:**
  - VIP Elevator Pitch Competition (for all who are NOT with the ECE Senior Design Class