ECE 480

Lecture Schedule

Fall 2012

 Ver. 1.0

Professor Michael Shanblatt

2308H Engineering Building

mas@msu.edu

(Please place “ECE480” in the subject line)

Lecture hours: MWF 10:20-11:10AM

2250 Engineering Building

Attendance Policy: All students must attend all lectures (except by prior approved arrangement or valid university excuse).

*Attendance will be taken*.

 (Schedule is subject to change as circumstances may dictate. Changes will be announced in class or by email)

**Labs begin Tuesday September 4 in 2221 EB**

*Your parts kits will be distributed at your first lab session.*

Week 1: *Project Preference ranking forms due by Wednesday 8/29 at 5:00, electronically or in Prof. Shanblatt's mailbox in the ECE Office, 2120 EB*

*Teams will be assigned and notifications made at or before Friday’s lecture.*

Aug. 29 – Class Overview, presentation of project descriptions, handout of preference ranking forms.

[Lecture Overheads](http://www.egr.msu.edu/classes/ece480/capstone/About480.ppt)

Aug. 31 -- Video on team design, discussion of design process.

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### Week 2            *Labs start Tuesday Sept. 4*

Sept. 3 -- No class. University holiday

Sept. 5 -- Introduction of team roles, project planning and engineering notebooks.

[Engineering Notebook Description](http://www.egr.msu.edu/classes/ece480/goodman/notebook.htm)

[Notebook Overheads](http://www.egr.msu.edu/classes/ece480/goodman/NotebookOverheads.ppt)

[Team Roles Description](http://www.egr.msu.edu/classes/ece480/goodman/Team-roles.htm)

[Team Roles Overheads](http://www.egr.msu.edu/classes/ece480/goodman/Team-roles.slides.htm)

Sept. 7 -- Assignment and explanation of proposal; overview of required reports; RFP distributed; policy on plagiarism, citing other work, and writing expectations.

            [Request for Proposal (RFP)](http://www.egr.msu.edu/classes/ece480/capstone/Sp11/files/memo_rfp.docx)

[Lecture Notes](http://www.egr.msu.edu/classes/ece480/capstone/Sp11/files/lecture-1-23.pdf)

[Tech Writing Pointers](http://www.egr.msu.edu/classes/ece480/capstone/Sp11/files/MoreTechWriting.ppt)

Week 3           ***Lab miniproject #2, parts A-C, due in scheduled lab Week 3.  Soldered boards due at***

***BEGINNING of next week’s lab.***

 Sept. 10 -- Guest Lecture: Prof. Erik Goodman

Teaming; Group process rules developed; Intro to Project Management and MS Project

[Lecture Notes](http://www.egr.msu.edu/classes/ece480/goodman/docs/resources/TeamDesign.html)

[Lecture Overheads](http://www.egr.msu.edu/classes/ece480/goodman/TeamingLectureOH.ppt)

[Lecture Notes- Project Management and MS Project Usage](http://www.egr.msu.edu/classes/ece480/goodman/projmgtlectureohs.ppt)

### [Lecture Notes- Project Management and MS Project Usage](http://www.egr.msu.edu/classes/ece480/goodman/ProjMgtOH.pdf) -- .pdf file

Sept. 12 -- Technical Communications: Oral Presentations

### [Overheads on Oral Presentation](http://www.egr.msu.edu/classes/ece480/goodman/oralpres.ppt)

### Sept. 14 -- Guest Lecturers:  Mr. Brian Wright, ECE Technical Services, Building Your Prototype and ECE Shop Resources for your Team Projects.

### Ms. Roxanne Peacock, on parts ordering and purchasing policies.

### *A laptop PC will be assigned to each team.*

### [Lecture Notes -- Building Your Prototype](http://www.egr.msu.edu/classes/ece480/goodman/PrototypingLecture.ppt)

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Week 4           ***Pre-proposal due to facilitator at group meeting during week 4***

***Team web page started.***

 ***GANTT chart due to facilitator and Prof. Shanblatt on Sept. 21 by 5:00PM.***

Sept. 17 -- Guest Lecture: Mr. Garth Motschenbacher, The Center and Employment opportunities

### Sept. 19 -- Six Sigma Overview and Introduction to Design for Six Sigma [1].

### Mr. Gregg Motter, Dow Chemical Co.

### [Lecture Overheads](http://www.egr.msu.edu/classes/ece480/goodman/DFSSfiles/1_SS_Overview_08.pdf)

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### Sept. 21 -- VOC: Understanding the Customer’s Viewpoint [2].  Mr. Gregg Motter, Dow Chemical Co.

### [Lecture Overheads](http://www.egr.msu.edu/classes/ece480/capstone/DFSSfiles/2_MSUVOC_12.pdf)

Week 5           ***Voice of Customer assignment due to Mr. Motter by email (exact date TBA by Mr.***

***Motter).***

***Lab Miniproject #3 due in scheduled lab.***

***Work with your team on your page for the Design Day Program, due about week 6 or 7 (exact date TBA).***

***FAST diagram due by email to Mr. Motter (exact date TBA by Mr. Motter).***

***Practice oral proposal presentation with facilitator at weekly meeting during .***

Sept. 24 -- Quality Function Deployment (QFD) Customer-Driven Development [3].

Mr. Gregg Motter, Dow Chemical Co.

[Lecture Overheads](http://www.egr.msu.edu/classes/ece480/goodman/DFSSfiles/3A_MSU_QFD_08.pdf)

Sept. 26 -- Function Definition - Powerful Problem Analysis Technique [4].

Mr. Gregg Motter, Dow Chemical Co.

[Lecture Overheads](http://www.egr.msu.edu/classes/ece480/goodman/DFSSfiles/4_MSU_Fx_08.pdf)

Sept. 28 -- No class. Team work day: Oral Proposal Presentations

Week 6 ***Design Day Program Pages due to Prof. Shanblatt (Exact date TBA; Submit CD to ECE Office,).***

***See*** [***here***](http://www.egr.msu.edu/classes/ece480/goodman/brochurepage.htm) ***for instructions.***

***FAST diagram due by email to Mr. Motter (exact date TBA by Mr. Motter).***

Oct. 1 -- Team Oral Proposal Presentations: Teams 1 and 2

Oct. 3 -- Team Oral Proposal Presentations: Teams 3 and 4

Oct. 5 -- Team Oral Proposal Presentations: Teams 5 and 6

### Week 7           *Miniproject #4 due in scheduled lab.*

### *Final proposals due to facilitator and sponsor, Friday, Feb. 24 at 5:00; submit electronically*

Oct. 8 -- Team Oral Proposal Presentations: Teams 7 and 8

Oct. 10 -- Team Oral Proposal Presentations: Team 9

Oct. 12 -- Guest Lecturer:  Intellectual Property, Mr. Steven Noll, patent attorney (Schiff Hardin, Chicago).

[Example Patent used by Mr. Noll](http://www.egr.msu.edu/classes/ece480/goodman/docs/NollPatent.pdf)

[Mr. Noll’s notes on IP](http://www.egr.msu.edu/classes/ece480/goodman/LecNotesReIntellProperty.PDF)

[Lecture Overheads on Intellectual Property (.ppt)](http://www.egr.msu.edu/classes/ece480/goodman/iptalk-11-4-2005.ppt) (from Dr. Margaret Wade, Director, MSU, Division of Engineering Research)

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### Week 8           *Miniproject #4 due in scheduled lab.*

***Final proposals due to facilitator and sponsor, Friday, Feb. 24 at 5:00; submit electronically***

Oct 15 -- Technical Lecture: Circuit protection, power supply circuits,and thermal models.

Prof. F. Peng

[New PowerPoint Notes](http://www.egr.msu.edu/classes/ece480/goodman/PowerSupplyAndThermal%20Issues.PPT)

[Earlier Lecture Notes](http://www.egr.msu.edu/classes/ece480/goodman/reg-heat.htm)

Oct. 17 -- Six Sigma Optimization - MAIC [5].  Mr. Gregg Motter, Dow Chemical Co.

[Lecture Overheads](http://www.egr.msu.edu/classes/ece480/goodman/DFSSfiles/5_MAIC_Optimization.pdf)

### Oct. 19 -- Entrepreneurship and small business start-up [1].  Mr. Gregg Motter, Dow Chemical Co.

### [Lecture Overheads](http://www.egr.msu.edu/classes/ece480/capstone/DFSSfiles/EntrepreneurshipD.pdf)

### [Business Model Canvas Template](http://www.egr.msu.edu/classes/ece480/capstone/Bz_Model_Canvas_Template.docx)

Week 9           ***Two page progress report due to facilitator at weekly meeting***

***Photocopy of Engineering Notebook (up to date) due to facilitator at weekly meeting***

***Business canvas assignment (exact due date to be announced by Mr. Motter)***

### Oct. 22 -- Entrepreneurship and small business start-up [2].  Mr. Gregg Motter, Dow Chemical Co.

Oct. 24 -- Guest Lecture:  Dr. Asif Naseem, President and CEO, GoAhead Software. Thirty years in engineering; if I knew then what I know now!

  Oct. 26 -- Entrepreneurship and small business start-up [3].  Mr. Gregg Motter, Dow Chemical Co.

Week 10

 Oct. 29-31 –

1. Planning for student tech lectures/deliverables/scheduling/application note assigned

[Student Technical Lecture Topic Submission](http://www.egr.msu.edu/classes/ece480/capstone/Sp11/files/TechLecInfo-S11.doc)

[Handout- Application Note Assignment](http://www.egr.msu.edu/classes/ece480/capstone/Sp11/files/application%20note%20assignment.docx)

Assigned Reading:

[Handout- Safety Advice & ESD](http://www.egr.msu.edu/classes/ece480/goodman/safety.htm)

### [Handout- Drawing Schematic Diagrams](http://www.egr.msu.edu/classes/ece480/goodman/schematics.htm)

2. Lecture on “Standards and Product Liability”

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### 3. Design Issues Paper *- Design issues paper assignment*

### [PLM notes](http://www.egr.msu.edu/classes/ece480/capstone/Design%20Issues.pptx)

                       [Design Issues Paper Assignment](http://www.egr.msu.edu/classes/ece480/capstone/Sp11/files/DesignIssuesPaper-s11.docx)

 Nov. 2 -- *Guest lecture:* Assistive Technology -- Stephen Blosser, MSU RCPD

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### Week 11         *Individual Application Notes due to facilitators during week 11*

Nov. 5 -- Team Technical Lectures: Teams 1 and 2

Nov. 7 -- Team Technical Lectures: Teams 3 and 4

Nov. 9 -- Team Technical Lectures: Teams 5 and 6

Week 12

Nov. 12 -- Team Technical Lectures: Teams 7 and 8

Nov. 14 -- Team Technical Lectures: Team 9

Nov. 16 – End Game Instruction: Discussion of final report and other deliverables.

Design Day procedures.

See detailed instructions for final report and all final deliverables [HERE](http://www.egr.msu.edu/classes/ece480/capstone/FinalDeliverablesAndFinalReptFormat-S12.docx).

### Week 13         *Team's Design Issues paper due (electronic submission; in WORD docx file) to Prof. Shanblatt by 5:00PM on Friday April 13 at 5:00*

***(Specifications for paper are*** [***here***](http://www.egr.msu.edu/classes/ece480/capstone/Sp11/files/DesignIssuesPaper-s11.docx)***).***

***Team's Progress Report # 2 and project demonstration due to facilitators during weekly meeting***

### Nov. 19 -- Guest Lecture, Karl Gude, MSU Journalism (former graphics director for Newsweek Magazine):  How to make your Design Day posters more effective!

###             PowerPoint presentation is [here](http://www.egr.msu.edu/classes/ece480/capstone/poster_design_presentation.ppt).  Handout is [here](http://www.egr.msu.edu/classes/ece480/capstone/poster_design_handout.pdf)

### Nov. 21 -- No Lecture.  Meet with your team to work on your project

### Nov. 23 -- No class.  University Holiday

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### Week 14         *Professional self-assessment papers due to Prof. Shanblatt and facilitators by Wednesday Apr.18 at 5:00PM (electronic submission)*

Nov. 26 -- No Lecture.  Meet with your team to work on your project

### Nov. 28 -- No Lecture*.*  Meet with your team to work on your project.

Nov. 30 -- No Lecture*.*  Meet with your team to work on your project

Week 15          ***Final Reports due Wednesday December 5 by 4:30PM (see below)***

***See below for other last week deliverables***

Dec. 3 -- Evaluation Day: Course evaluations (SIRS), evaluations of facilitators will be done in class.

Dec. 5 -- No class -- Team final preparation day - work on project/poster/oral presentation.

***Special note: 26 FINAL REPORTS DUE ELECTRONICALLY AND PRINTED TODAY, as follows:***

***To facilitator (electronic or printed, as they choose)***

***To Prof. Shanblatt:  electronic (docx file) AND five (5) printed copies due in ECE Office, PRIOR to 4:30pm, for Prof. Shanblatt and judges to read.***

***(Make an additional printed copy to turn into your sponsor at Design Day, if they attend, or for you to express mail to them no later than Monday, Dec. 10).***

***Final updates to web pages (videos, photos, results, and all other non-confidential items) should be made by 6:00 today (Wednesday) so that the***

***judges may examine them Thursday.***

Judging Criteria ([HERE](http://www.egr.msu.edu/classes/ece480/capstone/JudgingCriteria%204-13-12.doc)).

The two copies of your POSTER (see instructions on main web page) are not DUE until Design

Day Friday morning, BUT you should be printing them (in person at DECS office on 1st floor) Wednesday or EARLY THURSDAY, as it takes a while to set up, print, and laminate it. Remember that about 30-40 teams (ECE + ME + CSE + others) all need their posters printed for Friday morning.  Don’t wait until 4:00PM on Thursday to print your poster!  Mounting

material available in ECE Shop.  Note:  Print quota additions for poster printing and for printing multiple copies of final report will be available if requested (to Prof. Shanblatt)

by Tuesday at noon.  Otherwise, you’re on your own to pay for additional quota if needed.

Dec 7 -- **Design Day**, at MSU Union Building.  Final oral presentations, demonstrations of projects,

poster displays graded/judged by instructor and invited judges.

Detailed schedule to be announced in Design Day Brochure.

Prizes announced at award ceremony in Union Ballroom, ~1:00pm.

Most ECE classes cancelled through 3:00; plan to spend the day.

           ALSO DUE:

Final Notebooks due to facilitator by 5:00PM.

Final CD with ALL documentation due to Prof. Shanblatt by 5:00PM.  (May turn in CD and

notebooks at ECE Office, labeled for Shanblatt (CD) or your facilitator (notebook)).

### Final Exam Week

1. Due Monday, Dec. 10 by 12:00 noon: You must submit (electronically to Prof. Shanblatt)

your evaluation of the contributions of your team members (get it [here](http://www.egr.msu.edu/classes/ece480/capstone/Sp11/files/EvaluationOfTeammateContributions-S11.doc)).

2. Due Monday, Dec. 10by 5:00PM: You must have cleaned out your lockers, turned in all parts and project materials not going back to your sponsor, sent your hard-copy report and CD to your sponsor, and had the ECE Shop sign off on the form indicating completion, or grade will be withheld and possibly reduced.