CMPE349 Intro to Professional Practice

A course to prepare you for Capstone.

Dr. LaBerge (CMPE)

Administrative Stuff

- **Who's here – who should be here?**
- **Contact information (all on Blackboard)**
  1. **E-mail: chuck.laberge@umbc.edu**
  2. **Phone contacts**
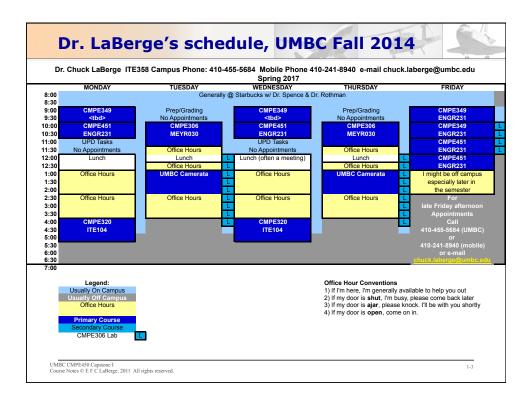   **Office: 410-455-5684**
     Mobile: 410-241-8940← it's ok to use this!
     Home: 410-821-8934 ← it's ok to use this!
  3. **Office ITE358**
     If I'm there, you're welcome (with certain limits)
     Modified open door policy (posted on Blackboard)
     I'm generally on campus Monday – Thursday, occasionally on Friday

Dr. LaBerge's schedule, UMBC Fall 2014

Dr. Chuck LaBerge ITE358 Campus Phone: 410-455-5684 Mobile Phone 410-241-8940 e-mail chuck.laberge@umbc.edu
Spring 2017

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00	Generally @ Starbucks w/ Dr. Spence & Dr. Rothman				
8:30					
9:00	CMPE349	Prep/Grading	CMPE349	Prep/Grading	CMPE349
9:30	<tbd>	No Appointments	<tbd>	No Appointments	ENGR231
10:00	CMPE451	CMPE306	CMPE451	CMPE306	CMPE349
10:30	ENGR231	MEYR030	ENGR231	MEYR030	ENGR231
11:00	UPD Tasks		UPD Tasks		CMPE451
11:30	No Appointments	Office Hours	No Appointments	Office Hours	ENGR231
12:00	Lunch	Lunch	Lunch (often a meeting)	Lunch	CMPE451
12:30		Office Hours		Office Hours	ENGR231
1:00	Office Hours	UMBC Camerata	Office Hours	UMBC Camerata	I might be off campus
1:30					especially later in
2:00					the semester
2:30	Office Hours	Office Hours	Office Hours	Office Hours	For
3:00					late Friday afternoon
3:30					Appointments
4:00	CMPE320		CMPE320		Call
4:30	ITE104		ITE104		410-455-5684 (UMBC)
5:00					or
5:30					410-241-8940 (mobile)
6:00					or e-mail
6:30					chuck.laberge@umbc.edu
7:00					

Legend:
- Usually On Campus
- Usually Off Campus
- Office Hours
- Primary Course
- Secondary Course
- CMPE306 Lab [L]

Office Hour Conventions
1) If I'm here, I'm generally available to help you out
2) If my door is **shut**, I'm busy, please come back later
3) If my door is **ajar**, please knock. I'll be with you shortly
4) If my door is **open**, come on in.

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Professional Practice

- **This really is a professional practice course**

- **...meaning that I have 15 weeks to get you ready for so that you can be a contributing member of a Capstone team,**

- **...and you have 15 weeks to show me that you are ready for the Capstone experience**

- **...and, in Spring 2017, we, together, have 15 weeks to continue development of this new course that includes**
  - **Design and system engineering methodologies**
  - **Technical writing**
  - **Professional practice & ethics**

- **As in CMPE450, I will run this as a experience in professional practice, meaning**
  - **ON TIME all the time (no parking excuses!)**
  - **EVERYTHING counts**
  - **CHANGE is constant**

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CMPE349 Course outcomes

- **What should you be able to do at the end of the CMPE349?**

  - **1. Students will understand the basic project design and development process.**

  - **2. Students will be familiar with the graphic and tabular artifacts associated with developing a design from a set of user requirements.**

  - **3. Students will be aware of multiple codes of professional behavior and ethics, and will have experience in applying such principles in a simulated work environment.**

  - **4. Students will have experience in writing, editing and improving technical documents including Statement of Work, System Specification, and Technical Notes.**

  - **5. Students will have the opportunity to practice the project design skills in a simulated work environment.**

CMPE349 replaces some things

- **CMPE349 replaces ENGL393 for those who have not taken it.**

- **CMPE349 (actually the entire Capstone sequence) has received a Writing Intensive designation**

- **CMPE349 replaces PHIL251 for those who have not taken it, but does not replace the 3 AH credits.**

- **You must still pass 3 AH courses to meet the UMBC graduation guidelines. CMPE349 does NOT carry an "AH" designation.**

- **Starting with this class, CMPE349 will replace the first six weeks of CMPE450 Capstone I.**

- **I won't be repeating this information in the fall, but I will expect you to have these skills.**

Three major topics

- **Design and system engineering methodologies**
  - **Design process, *graphic artifacts*, basic project management techniques, fundamentals of systems engineering, requirements decomposition**
- **Technical communications**
  - **System requirements documents, statements of work/project plans, tech notes, presentations, etc.**
- **Professional practice & ethics**
  - **Codes of ethics, ethical behavior in the workplace, workplace practices**

- **Lots of detail on the intended content in the syllabus on Blackboard.**

Grades, etc. See Syllabus for details

	Assignment	SubTotal
Individual		50
CATME Registration	1	
CATME Submissions (2)	2	
Prof Practice Writing	5	
TN001	15	
TN002	15	
Teamwork Score (2%/3%)	5	
Attendance (see text)	5	
Qualitative	2	
Team		51
SRS Fragment	3	
WBS	3	
SRS Draft	3	
SOW Draft	3	
SDD Draft	3	
SRS Final	7	
SOW Final	7	
SDD Final	7	
Proposal Draft	15	
	Total	101

UMBC Policy on Academic Honesty

- I typically make students sign the academic honesty document

- ...sometimes that doesn't work and we still have problems (yes, it happens)

- As you leave here, you're supposed to have

Student Outcome (f):

An understanding of professional and ethical responsibility

- **Do the right thing – all the time!**

- **Enforcement is also your responsibility!**

- So: The UMBC policy is in effect. It's your responsibility to know what the policy is and to comply with it

- EVERY employer will have a series of ethics and conflict of interest policies

- It's *your responsibility* to comply!

Cooperation and Ethical Behavior

- Most, but not all, of the assignments are team based, and you must provide a team response

- It's an ethical violation (previous slide) to not pull your weight
  - Even if you don't like the subject
  - Even if you think the assignment is dumb
  - Even if you think the requirements are stupid

- You're being paid (grade) to participate

- Some of the assignments are individual...

- ...and I will be clear which is which

- In this case I'm looking for YOUR value added

- Research is fine, as long as it is attributed.

Research and Attribution

- **Some assignments will expect you to look up other opinions, information, etc.**

- **Such material must be credited to its source**

- **...see ReferenceExamples.pdf in /Background folder on Blackboard**

- **WIKIPEDIA is an encyclopedia**

- **It is useful, but not an acceptable reference. Use wikipedia to find out where to look for real information, or to get background information. Always check your content!**

- **WIKIPEDIA is not a reference!**

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- **WIKIPEDIA is not a reference!**

Code of conduct

- **Class starts promptly when scheduled: MWF at 9**

- **Don't Be Late if you need to leave home early to get a parking space, do so**

  - **Habitual tardiness will hurt your grade.**

  - **I live in Towson and have never been late to a class: you can (and should) meet this standard.**

- **Attendance is required unless otherwise notified. There are no "optional" classes.**

- **I expect your participation, just like your boss will expect your participation.**

- **You have 3 "sick days" for emergencies. Do not plan to use them unless you must.**

- **Cell phones should be silenced or turned off**

  - **If it rings, you sing the UMBC alma mater "Our UMBC"!**

We have some scheduling/capacity issues

- **There were 20 more of you than we accounted for**

- **Therefore, I've had to change the way I'm going to conduct the course**

- **I'll lecture, with limited in-class work, on MW 9-9:50 in FA215**

- **We'll have "hand on" active learning (teamwork, etc) on Friday at 9-9:50 or 10-10:50 in ITE349.**

- **Your availability in 10-10:50 time slot will be determined as part of the CATME team selection process. 10-10:50 will be scheduled by TEAM not by individual.**

Director of Engineering

- **OK down to the nitty gritty**

- **We structure this course as though we are the engineering staff of a mid-sized company**

- **I'm the Director of Engineering**

- **You will be my development teams**

- **Your job is to make your project successful!**

- **The syllabus has an extremely detailed plan: look at it!**

LaBerge's Laws

1. **Engineers must be able to deal with ambiguity**

2. **It doesn't exist if it isn't written down**

   a) **If it is written down and you can't find it, it still doesn't exist.**

   b) **Undocumented code is nearly useless**

3. *Every* **engineering problem is a design problem.**

4. *Every* **engineering decision has a cost.**

5. **Estimate when necessary, but act on fact!**

6. **Problems can only be solved by those who see them.**

7. **Engineers must keep learning!**

(updated 12/2/2014)

This semester

- **We will ALL be working on a design and proposal for a precision landing system**

- **Now, you don't know much (if anything) about landing systems,**

- **...so I'll spend a little time trying to get you up to speed.**

- **I'll also be the System Engineer and develop the high-level design.**

- **Your teams will then develop realistic designs for the individual elements of the high-level design, including**

  - **Specifications**

  - **Statements of Work**

  - **System Design Documents**