



## **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](mailto: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 <a href="mailto:chuck.laberge@umbc.edu">chuck.laberge@umbc.edu</a> Spring 2017					
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	
Generally @ Starbucks w/ Dr. Spence & Dr. Rothman					
8:00					
8:30					
9:00	CMPE349	Prep/Grading	CMPE349	CMPE349	
9:30	<td>	No Appointments	<td>	ENGR231	
10:00	CMPE451	CMPE306	CMPE451	CMPE349	
10:30	ENGR231	MEYR030	ENGR231	ENGR231	
11:00	UPD Tasks		MEYR030	CMPE451	
11:30	No Appointments	No Appointments	Office Hours	ENGR231	
12:00	Lunch	Lunch (often a meeting)	Lunch	CMPE451	
12:30	Office Hours		Office Hours	ENGR231	
1:00	UMBC Camerata	Office Hours	UMBC Camerata	CMPE451	
1:30				ENGR231	
2:00	Office Hours	Office Hours	Office Hours	ENGR231	
2:30				ENGR231	
3:00	Office Hours			ENGR231	
3:30				ENGR231	
4:00	CMPE320	CMPE320	Office Hours	ENGR231	
4:30	ITE104	ITE104		ENGR231	
5:00				ENGR231	
5:30				ENGR231	
6:00				ENGR231	
6:30				ENGR231	
7:00				ENGR231	
<div> <div>Legend:</div> <div> <div>Usually On Campus</div> <div>Usually Off Campus</div> <div>Office Hours</div> <div>Primary Course</div> <div>Secondary Course</div> <div>CMPE306 Lab</div> </div> </div> <div> <div>Office Hour Conventions</div> <div> <div>1) If I'm here, I'm generally available to help you out</div> <div>2) If my door is <b>shut</b>, I'm busy, please come back later</div> <div>3) If my door is <b>ajar</b>, please knock. I'll be with you shortly</div> <div>4) If my door is <b>open</b>, come on in.</div> </div> </div>					
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Professional Practice					
<ul style="list-style-type: none"> <li>▪ This really is a professional practice course</li> <li>▪ ...meaning that <b>I</b> have 15 weeks to get you ready for so that you can be a contributing member of a Capstone team,</li> <li>▪ ...and <b>you</b> have 15 weeks to show me that you are ready for the Capstone experience</li> <li>▪ ...and, in Spring 2017, <b>we</b>, together, have 15 weeks to continue development of this new course that includes <ul style="list-style-type: none"> <li>▪ Design and system engineering methodologies</li> <li>▪ Technical writing</li> <li>▪ Professional practice &amp; ethics</li> </ul> </li> <li>▪ As in CMPE450, I will run this as a experience in professional practice, meaning <ul style="list-style-type: none"> <li>▪ ON TIME all the time (no parking excuses!)</li> <li>▪ EVERYTHING counts</li> <li>▪ CHANGE is constant</li> </ul> </li> </ul>					
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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.**

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### 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.**

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## 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.

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## Grades, etc. See Syllabus for details

	Assignment	SubTotal
<b>Individual</b>		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	
<b>Team</b>		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

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## 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!

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## 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.

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## 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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## 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"!

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## **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)

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## 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

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