

# **EE580 – System Verification**

## **Nazarian Summer 18**

### **University of Southern California**

### **Department of Electrical Engineering**

#### **Course Description**

This is a 4-unit course on the simulation-based/formal/semiformal/assertion-based verification tools and concepts to detect design errors that may impact the functionality, safety, timing, or power of software hardware systems. Tasks required for the homework, lab and project assignments include object-oriented programming, scripting, algorithm and data structure implementation, FPGA prototyping, hardware acceleration, statistical modeling, machine learning, formal methodologies and implementation of industrial standard methodologies. Instructor permission is required to register for this course.

#### **D-Clearance Requirements**

Those interested in taking EE580 of Summer 18, need to fulfill one of the requirements:

- 1) Have taken EE599 (SW Design and Optimization for EE) in Spring 18.
- 2) Have taken EE355 with me or Professor Mark Redekopp

If none of the two, then they need to pass an interview with the instructor or pass the EE580 placement exam on software skills. In addition, they need to fulfill one of the following requirements:

- 3) Are a CS student with a GPA higher than 3.8.
- 4) Are admitted to EE USC in Spring 18 and have earned a 4.0 GPA.
- 5) Are admitted prior to Spring 18 and have earned a GPA of 3.8 or higher.

#### **Website**

<https://blackboard.usc.edu/>

#### **Instructor**

**Dr. Shahin Nazarian**

Office: EEB340

Office Hours: MW after classes (in KAP). More hours will be announced weekly.

Contact: <http://sportlab.usc.edu/~shahin/>

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(213) 740-4653

## **Teaching Assistants and Graders** (in alphabetical order)

**Praveen Sharma**      [praveens@usc.edu](mailto:praveens@usc.edu)  
Office:                    PHE320  
Office hours:            TBA  
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**Xuan Zuo**                [xzuo@usc.edu](mailto:xzuo@usc.edu)  
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**Yao Xiao**                [xiaoyao@usc.edu](mailto:xiaoyao@usc.edu)  
Office:                    PHE320  
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## **Class Information**

<https://classes.usc.edu/term-20182/classes/ee/>

## **Grading Policy**

Labs and HWs	25%
(Midterm I, Midterm II)	(15%, 30%)
Both will cover lectures, project, lab, and hw assignments	[will cover lectures, Labs and the project]
Project	30%

## **Example Grading Scale**

95<A  
90<A-<95  
85<B+<90  
80<B<85  
75<B-<80  
70<C+<75  
65<C<70  
60<C-<65  
55<D+<60  
50<D<55  
45<D-<50  
F<45

## **Academic Integrity**

**Plagiarism, cheating and unauthorized collaborations will not be tolerated. You should either attend the first lecture and/or watch the recorded lecture for more details regarding the assignments and our course policies.**

**Please also ask the instructor if you have questions about proper behavior and/or review the information (including a 15-minute tutorial) posted in the following website:**

[http://www.usc.edu/libraries/about/reference/tutorials/academic\\_integrity/index.php](http://www.usc.edu/libraries/about/reference/tutorials/academic_integrity/index.php)

**More information about academic integrity including USC policies can be found at the following:**

<http://www.usc.edu/student-affairs/SJACS/pages/students/publications.html>

## **Statement on Academic Conduct and Support Systems**

### **Academic Conduct**

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards (<https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct (<http://policy.usc.edu/scientific-misconduct/>). Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity (<http://equity.usc.edu/>) or to the Department of Public Safety (<http://capsnet.usc.edu/department/department-public-safety/online-forms/contactus>). This is important for the safety whole USC community. Another member of the university community - such as a friend, classmate, advisor, or faculty member - can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men (<http://www.usc.edu/student-affairs/cwm/>) provides 24/7 confidential support, and the sexual assault resource center webpage [sarc@usc.edu](mailto:sarc@usc.edu) describes reporting options and other resources.

### **Support Systems**

Several USC schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs [http://sait.usc.edu/academicsupport/centerprograms/dsp/home\\_index.html](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html) provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information <http://emergency.usc.edu/> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.