# Research plan COSC 102 (CS1)

*Part of PICSUL*: <http://picsul.utk.edu/>

*Involves the use of Short Message System to carry out an experience sampling method (ESM) technique*: <http://www.shortmessagesurvey.com/>

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**Class schedule**:

* Lectures Tuesday and Thursday
* Labs Wednesdays at different times

**Participants**:

* Students from 2-3 lab sections (for a total of approximately 60 students)

**Sampling Strategy:**

* Prompt students to answer ESM survey after each Wednesday lab
* Prompt students to answer ESM survey after lectures in ~4 weeks throughout the semester

**Measures**:

*Experience Sampling Method items* (approx. 1-2 minutes)

* With regards to the content of the class so far and what you’ve been working on (1-5 scale, 1 = not at all, 5 = a lot):
  + How challenged do you feel?
  + How accomplished do you feel?
  + How frustrated do you feel?
  + How confident do you feel about being able to do the work going forward?

*Pre and Post-survey* (10 minutes or less)

Validated scales for the following psychological constructs (~25 items):

* Self-efficacy
* Interest in CS
* Value
* Belongingness

*Administrative data*

* Demographic data
* Final grades
* Course taking in the subsequent semester

**Data collection schedule**:

* Obtain IRB approval (have an NSF determination notice, so should be quick)
* Pre-survey - whenever we are able to start data collection
* Post-survey - last week of the semester or slightly earlier if better to not interfere with exams
* After each Wednesday lab and after lectures in selected weeks, we trigger the survey asking the four main questions.
  + Timing is keyed to when the individual students have lab.
  + Randomly divide students between 1, 5, & 10 minute lag after lab.

**Data collection modality:**

* Contact students via SMS message to complete ESM items.
* Pre and post surveys completed via Qualtrics (some by text and some by email)

**Payment for students**

* $30 each