

EECE 417: Software Architecture

Course Orientation

Course Logistics

- **Instructor:** Karthik Pattabiraman
(karthikp@ece.ubc.ca)
- **TA:** Farid M. Tabrizi (faridm@ece.ubc.ca)
- **Meetings:** Tuesdays/Thursdays 3:30 to 5 PM
- Looking for alternate classroom in MCLD

What is this course about ?

- High-level design of software systems
- Understanding of requirements and constraints in software design
- Mapping of constraints to design decisions
- Describing and documenting a design

Pre-requisites

- EECE 310 – Software Engineering
- EECE 315 – Operating Systems
- EECE 320 – Discrete Structures and Algorithms
- Maturity in building large software systems

Why take this course ?

- Gives you in-depth appreciation of S/W design
- Elevate your skills beyond coding
 - Makes sure you won't be offshored
 - Demand for software architects is high
- Understand the value of good design and apply it in the software systems you build

Differences with EECE 310

EECE 310

- Focus on functional requirements
- Emphasis on single module/class design
- Programming in Java

EECE 417

- Focus on **non-functional** requirements
- Emphasis on set of interconnected modules
- Programming required only for project (in Java)

Evaluation

- **Three components of evaluation**
 - Exams (45%) – Only one final exam, no mid-term
 - Project(40%) – Complex system design starting from requirements gathering to implementation
 - Class participation and presentation (15%)
 - Presentation from the Beautiful Architecture book (10%)
 - Class participation (5%) – Piazza and in-class

Class Structure & Logistics

- I will lecture on Tuesdays from the Taylor book
- **You will present on Thursdays from the Beautiful Architecture book (from Jan 19th)**
 - Signup sheets will be passed around next week
 - Two people sign up for each presentation
 - One person makes a PPT presentation
 - Another person answers questions from class

Project

- You will be expected to complete a substantial project in software design (Details next week)
- **Three milestones for the project**
 - Requirements document (10%) – Early February
 - Design document (10%) – Early March
 - Implementation and Report (20%) – Early April
 - Pieces are cumulative

Exam & Class Participation

- **Final exam will be based on my lectures**
 - Chapters from the Taylor book
 - Focus on application of the concepts
 - Practice quizzes that will not be graded
- **Class Participation**
 - Ask and answer questions on Piazza (not email). Sign up for a Piazza account ASAP.
 - Ask questions during Thursday's presentations

Some thoughts ...

- **This course requires a significant time commitment !**
 - Lectures, weekly readings and a course project
 - Do not take it if you cannot spare the time !
- **Software design is part science and part art**
 - You need to be steeped in it in order to appreciate it
 - Some things you can learn only from experience – I cannot teach you everything in the lectures
 - Intellectually rich and rewarding experience

To do (by next week)

- **Sign up for this class on Piazza**
 - Link available on course website
 - Monitor the website for classroom changes
- **Start thinking about project teams (of 2-3)**
 - You need to pick your teams by Jan 19th

Decide if you are willing and able to handle the workload for this class