

# Course Syllabus

## System Integration Architecture 2

### Course Description

The course discusses on how to design and build systems and integrate them into an organization, It covers to develop the skill to gather requirements, then source, evaluate and integrate components into a single system, and finally validate the system. It also covers the fundamentals of project management and the interplay between IT application and organizational process.

**Note:** The syllabus may be subject to adjustments as per the instructor's discretion and to accommodate specific institutional requirements or additional resources.

### Contact Hours:

Section	Time	Days	Methodology	Type of Contact
B	7:00 – 8:00	MW	Lecture/Discussion	Online
	1:00 – 4:00	Fri	Laboratory/Hands-On	Face-to-Face

### Midterm

#### Unit I: Integration Technologies

- XML Integration best Practices
- Web Services bet Practices

#### Unit II: SIA Concepts and Component

- Architecture Overview
- Architectural components
- Implementation methodology
- Frameworks
- DevOps

#### Unit III: Model Driven Architecture

- Representation/Modeling
- Term & Concepts
- Building Models
- Metamodels
- Mappings

- Marking models
- Languages
- Building an MDA process
- Executing an MDA process

#### Unit IV: Developing System Integration Architecture Part I

- Information Architecture
- Enterprise Architecture
- System Architecture

#### Unit V: Developing System Integration Architecture Part II

- Enterprise Integration Application
- Customer Resource Management System (CRM)
- Enterprise Resource Planning (ERP)
  - ERP Integration
  - ERP Integration Methods

### Finals

#### Unit VI: SIA Testing and Quality Assurance Part I

- TQA Standards
- TQA Techniques

#### Unit VII: SIA Testing and Quality Assurance Part II

- TQA Usability
- TQA Acceptance / contract conformance
- TQA Stress Testing

#### Unit VIII: SIA Testing and Quality Assurance Part III

- TQA Performance

#### Unit IX: SIA Evaluation

- System testing and evaluation

#### Unit X: SIA Integration and Deployment

- System Release: acceptance testing and defect repair

#### Unit XI: Project Presentation

### References

1. Englander, Irv (2014) The Architecture of Computer Hardware, system Software, And Networking an Information Technology Approach (5<sup>th</sup> ed) Wiley.
2. Friesen, Jeff (2019) Java XML and JSON: Document Processing for Java SE (2<sup>nd</sup> ed) Apress.
3. Mano, Morris (2017) Computer Systems Architecture (3<sup>rd</sup> ed) Pearson India
4. Marwedel, Peter (2018) Embedded System Design: Embedded Systems Foundation of Cyber-Physical systems, And the Internet of Things (4<sup>th</sup> ed) Springer
5. Massuda, Yoshimasa & Viswanathan, Murlikrishna (2019) Enterprise Architechture for Global Companies in a Digital IT Era: Adoptive Integrated Digital Architecture Framework (AIDAF) Springer
6. McDowall, John D. (2019) Complex Enterprise Architecture: A New Adaptive System Approach (1<sup>st</sup> ed) Apress
7. Sundnes, Joakim (2020) Introduction to Scientific Programming with Python, Springer
8. Zhang, Yan (2022) Mobile Edge Computing, Springer
9. Online search (google, youtube)

Grading System

Criteria	Percentage
Lab Activities	15
Attendance	15
Quizzes	20
Midterm Exam	25
Final Exam	25
Total	100%

1.0	96 – 100%	Excellent
1.25	94 – 95 %	Very Good
1.50	92 – 93 %	Very Good
1.75	89 – 91 %	Good
2.0	87 – 88 %	Good
2.25	84 – 86 %	Good
2.50	82 – 83 %	Fair
2.75	79 – 81 %	Fair
3.0	75 – 78 %	Passed
5.0		Failure
INC	Incomplete	Incomplete
DR		Dropped

Materials, Software's & Equipment's

- Computer Laboratory
- Laptops
- Smartphones
- Internet Connection

House Rules

1. Be sure to get to class on time and wear proper school uniform.
2. Respect your instructor and your classmates. Private conversation while the teacher is speaking is not allowed.
3. Turn your cellular phones and other gadgets off when in class or at least have it in silent mode to avoid disruption of the class.
4. Be sure to come to class prepared. When having difficulty understanding the lesson, seek assistance from your instructor.
5. Activities must be submitted on or before the deadline.
6. Student/s will be allowed 3 un-excused absences and 2 excused absences, exceeding 20% of the total number of class attendance will be subject for dropped.
7. Student/s will be given INC, he/she has missing core materials to accomplish such as exams.
8. Student/s that has multiple absences and has records of low performance in class will be given failing grade after the semester.
9. Late student/s will be marked absent if he/she exceeds more than 20mins of allotted class time, and will not be allowed to enter the class.

Prepared by:

Danny Gem T. Entico  
Course Instructor