**Software Engineering Study Plan – Academic Year 2024–2025**

**Total Credit Hours: 132 credit hours**

**SE 394: Practical Training**

(Pre-requisite: Year 3 Core Courses) – (1 Credit Hour) – Department

**First Year: First Semester (Total: 18 credit hours)**

* MATH 101 – Calculus I (4 credit hours)  
  Prerequisite: MATH 002
* PHYS 101 – General Physics I (4 credit hours)  
  Prerequisite: MATH 002  
  Co-requisite: MATH 101
* CS 111 – Introduction to Computing and Programming (4 credit hours)  
  Prerequisite: PCS 001
* ENGL 101 – First Year Composition (3 credit hours)  
  Prerequisite: ENGL 005
* GHAL xxx – Humanities, Arts, and Languages Elective (3 credit hours)  
  Prerequisite: none

**First Year: Second Semester (Total: 18 credit hours)**

* MATH 102 – Calculus II (4 credit hours)  
  Prerequisite: MATH 101
* PHYS 102 – General Physics II (4 credit hours)  
  Prerequisite: PHYS 101
* CS 112 – Object Oriented Programming (4 credit hours)  
  Prerequisite: CS 111
* ENGL 102 – Introduction to Report Writing (3 credit hours)  
  Prerequisite: ENGL 101
* GSOS xxx – Social Sciences Elective (3 credit hours)  
  Prerequisite: none

**Second Year: First Semester (Total: 17 credit hours)**

* ENGL 201 – Technical Writing (3 credit hours)  
  Prerequisite: ENGL 102
* CS 351 – Fundamentals of Database Systems (4 credit hours)  
  Prerequisite: CS 112
* CS 201 – Introduction to Discrete Systems (3 credit hours)  
  Prerequisite: MATH 102
* CS 211 – Data Structures and Algorithms (4 credit hours)  
  Prerequisite: CS 112
* GIAS 101 – Islamic Culture (3 credit hours)  
  Prerequisite: none

**Second Year: Second Semester (Total: 15 credit hours)**

* MATH 202 – Calculus III (3 credit hours)  
  Prerequisite: MATH 102
* STAT 232 – Probability and Statistics (3 credit hours)  
  Prerequisite: MATH 102
* CS 224 – Computer Architecture and Organization (3 credit hours)  
  Prerequisite: CS 201
* SE 262 – Software Engineering (3 credit hours)  
  Prerequisite: none  
  Co-requisite: CS 112
* GIAS 102 – Arabic Language Skills (3 credit hours)  
  Prerequisite: none

**Third Year: First Semester (Total: 17 credit hours)**

* MATH 204 – Linear Algebra (3 credit hours)  
  Prerequisite: MATH 102
* CS 221 – Fundamentals of Operating Systems (4 credit hours)  
  Prerequisites: CS 211, CS 224
* SE 464 – Software Project Management (3 credit hours)  
  Prerequisite: SE 262
* SE 311 – Software Requirements Engineering (3 credit hours)  
  Prerequisite: SE 262
* SE 323 – Software Process and Modeling (4 credit hours)  
  Prerequisite: SE 262

**Third Year: Second Semester (Total: 16 credit hours)**

* SE 342 – Software Architecture and Design (3 credit hours)  
  Prerequisite: SE 323
* CS 232 – Computer Networks (4 credit hours)  
  Prerequisite: CS 112
* SE 463 – Software Testing and Validation (3 credit hours)  
  Prerequisite: SE 311
* SE 324 – Software Construction (3 credit hours)  
  Prerequisite: SE 323
* SE 372 – Ethics and Professionalism (3 credit hours)  
  Prerequisite: SE 262

**SE 394: Practical Training**  
(Pre-requisite: Year 3 Core Courses) – (1 Credit Hour) – Department

**Fourth Year: First Semester (Total: 15 credit hours)**

* SE 491 – Capstone Project I (3 credit hours)  
  Prerequisite: SE 394
* SE 431 – Software Maintenance and Evolution (3 credit hours)  
  Prerequisite: SE 262
* MATH 201 – Differential Equations (3 credit hours)  
  Prerequisite: MATH 102
* SE xxx – Professional Elective I (3 credit hours)  
  Prerequisite: none
* SE xxx – Professional Elective II (3 credit hours)  
  Prerequisite: none

**Fourth Year: Second Semester (Total: 15 credit hours)**

* SE 492 – Capstone Project II (3 credit hours)  
  Prerequisite: SE 491
* GIAS xxx – Islamic Studies Elective (3 credit hours)  
  Prerequisite: none
* SE 472 – Software Security (3 credit hours)  
  Prerequisite: CS 232
* SE xxx – Professional Elective III (3 credit hours)  
  Prerequisite: none
* SE xxx – Professional Elective IV (3 credit hours)  
  Prerequisite: none