

**Department of Computer & Information Science - UMass Dartmouth**  
**Requirements for Bachelor of Science in Computer Science - Software Engineering Option**

*Updated 8/22/08*

Student Name \_\_\_\_\_  
 Last name First Name Middle

Date Entered \_\_\_\_\_

SID \_\_\_\_\_ Email address \_\_\_\_\_

Advisor \_\_\_\_\_

**Completion of this form assures satisfaction of all CIS Department and University graduation requirements, including General Education.**

**ρ I Required Core Courses (Grade of “C” or better)**

- \_\_\_\_\_ CIS 180 – Object Oriented Programming I (4)
- \_\_\_\_\_ CIS 181 – Object Oriented Programming II (4) (Pre: CIS 180)
- \_\_\_\_\_ CIS 190 – Introduction to Procedural Programming (4) (Pre: CIS 180)
- \_\_\_\_\_ CIS 264 – Software Quality Assurance and Testing (3) (Pre: MTH 181)
- \_\_\_\_\_ CIS 272 – Introduction to Computing Systems (4) (Co-req: CIS 190, MTH 181)
- \_\_\_\_\_ CIS 280 – Software Specification and Design (4) (Pre: CIS 181)
- \_\_\_\_\_ CIS 290 – Software Architectures and Frameworks (3) (Pre: CIS 181)
- \_\_\_\_\_ CIS 365 – Software Process and Project Management (3) (Pre: SE Jr. or Sr.)
- \_\_\_\_\_ CIS 390 – Design of Large Software Systems (3) (Pre: CIS 280, CIS 290)
- \_\_\_\_\_ CIS 431 – Human Computer Interaction (4) (Pre: CIS 362)
- \_\_\_\_\_ CIS 461 – Formal Methods in Software Engineering (3) (Pre: MTH182, CIS390)
- \_\_\_\_\_ CIS 498 – Software Engineering Project I (4) (Pre: CIS 362, CIS 365, CIS 390)
- \_\_\_\_\_ CIS 499 – Software Engineering Project II (3) (Pre: CIS 498)

**ρ II SE Technical Electives 3 courses required, (Grade of “C” or better)**

- \_\_\_\_\_ CIS 412 – Artificial Intelligence (3) (Pre: CIS 390)
- \_\_\_\_\_ CIS 422 – Design of Parallel Algorithms (4) (Pre: CIS 390)
- \_\_\_\_\_ CIS 430 – Data Mining and Knowledge Discovery (3) (Pre: CIS 390)
- \_\_\_\_\_ CIS 452 – Database Systems (3) (Pre: CIS 280)
- \_\_\_\_\_ CIS 454 – Computer Graphics (3) (Pre: CIS Jr./Sr.)
- \_\_\_\_\_ CIS 455 – Bioinformatics (3) (Pre: CIS 390)
- \_\_\_\_\_ CIS 464 – Game Design (3) (Pre: MTH 112, CIS 390)
- \_\_\_\_\_ CIS 465 – Topics in Computer Vision (3) (Pre: CIS 390)
- \_\_\_\_\_ CIS 466 – Introduction to Mobile Robotics (3) (Pre: CIS 360)
- \_\_\_\_\_ CIS 467 – Image Analysis and Processing (3) (Pre: CIS 390)
- \_\_\_\_\_ CIS 475 – Computer Networks (3) (Pre: CIS 272, CIS 390)
- \_\_\_\_\_ CIS 476 – Network Programming (3) (Pre: CIS 272, CIS 390)
- \_\_\_\_\_ CIS 477 – Computer and Information Security (3) (Pre: CIS 272)
- \_\_\_\_\_ CIS 490 – Machine Learning (3) (Pre: CIS 272, CIS 390)

**ρ III Mathematics Requirements**

- \_\_\_\_\_ MTH 111 - Calculus I (4)
- \_\_\_\_\_ MTH 112 - Calculus II (4) (Pre: MTH 111)
- \_\_\_\_\_ MTH 181 - Discrete Structures I (3)
- \_\_\_\_\_ MTH 182 - Discrete Structures II (3) (Pre: MTH 181)
- \_\_\_\_\_ MTH 331 - Probability (3) (Pre: MTH 112)

**ρ IV Science/Quantitative Requirements**

- \_\_\_\_\_ PHY 113 **or** CHM 151/161 **or** BIO 121/131 (4) (Circle one)
- \_\_\_\_\_ PHY 114 **or** CHM 152/162 **or** BIO 122/132 (Must be continuation of above) (4)
- \_\_\_\_\_ CIS 362 – Empirical Methods for CS (3) (Pre: MTH 331)
- \_\_\_\_\_ \_\_\_\_\_ Science Elective (4)

**ρ V English Requirements**

- \_\_\_\_\_ ENL 101 – FR. English I (Composition) (3)
- \_\_\_\_\_ ENL 102 – FR. English II (Literature) (3)
- \_\_\_\_\_ ENL 266 – Technical Communications (3)

**ρ VI Ethics and Social Responsibility**

- \_\_\_\_\_ CIS 381 – Social and Ethical Aspects of Computing (3)

**ρ VII Cultural and Artistic Literacy (Area C)**

- \_\_\_\_\_ \_\_\_\_\_(3) \_\_\_\_\_ \_\_\_\_\_(3)
- \_\_\_\_\_ \_\_\_\_\_(3)

**ρ VIII Global Awareness (Area G)**

- \_\_\_\_\_ \_\_\_\_\_(3)

**ρ IX Diversity (Area D)**

- \_\_\_\_\_ \_\_\_\_\_(3)

**ρ X Free Electives**

- \_\_\_\_\_ \_\_\_\_\_(3)
- \_\_\_\_\_ \_\_\_\_\_(3)

**ρ XI GPA of 2.000 or better**

**Comments:** \_\_\_\_\_  
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**NOTES:**