IPPD Structured Design Process

Hardware-oriented projects

Semester One
- system/product requirements
- product design specifications
- concept generation, evaluation and selection
- project plan
- business case

Semester Two
- product architecture
- component design specifications
- analytical and experimental plans
- proof of concept
- prototype test plan
- manufacturing plan
- product cost
- create minimum viable product prototype

Handoff to sponsor
- project plan and detail design review (QRB1)
- translate verified simulations into detail models/drawings of components and subsystems
- analytical and experimental report
- procure/fabricate functional prototypes
- prototype results & report (QRB2)
- develop detailed time lines for testing at module and integration levels
- update product specifications
- manufacturability assessment
- detail manufacturing and tool documentation

Sponsor initiated activities
- manufacturing and test plan
- final product cost
- fabricate final prototype
- acceptance test results and report
- final report and documentation
- project poster
- project video

Key to symbols and abbreviations:
▲ = Major design report and review (sponsor approval)
△ = Internal faculty review
PDR = Preliminary Design Report
SLDR = System Level Design Report
FDR = Final Design Report
QRB = Qualification Review Board
Embedded systems software projects

Key to symbols and abbreviations:
\(\Delta\) = Major design report and review (sponsor approval)
\(\triangle\) = Internal faculty review
PDR = Preliminary Design Report
SLDR = System Level Design Report
FDR = Final Design Report
QRB = Qualification Review Board

Note: most software projects in IPPD are developed using agile methods; these processes are not fully documented in our training documentation to date.