MEEG 304 – Expectations

Customers & Needs:
Typical validated elements include: contact information, team norms/guidelines, identifying customers, developing needs (= wants & constraints), resource management and weekly progress update.

Scope definition with technology/science content & key metrics:
Typical validated elements include: identify underlying science & technology of key subsystems, derive critical issues, business understanding of critical issues; project scope; resource management and weekly progress update.

Technology & Benchmarking:
Typical validated elements include: updated UDesign spreadsheets, processed benchmarking vs. critical issues & tradeoffs, identification of potential resources: paper – vendors – consultants, resource management and weekly progress update.

by end of Phase 0 **Design Specifications milestone**; evidence = 1) peer evaluations & team norms, 2) formal evaluation of online logbook: scope definition including key metrics derived from customer needs, science/technology issues, and constraints; 3) written draft project proposal summarizing concept candidates and project plan.

Concept Generation:
Typical validated elements include: updated UDesign spreadsheets including design requirements (metrics with target values), brainstorming, comparison of concepts & tradeoffs, resource management and weekly progress update.

Concept Selection:
Typical validated elements include: updated UDesign spreadsheets including concept rankings and cross-comparisons, update – critical issues vs. concept technologies, tentative path-forward schedule, contingencies, resource management and weekly progress update.

by end of Phase 1 **Concept Selection milestone**; evidence = 1) peer evaluations & revised team norms; 2) formal evaluation of online logbook: benchmarking with concept generation & validated selection including plan to prove the concept; 3) written project proposal summarizing concept selection and project plan.

Concept Design:
Typical validated elements include: engineering drawings of: overall system & components; estimates of resources required for project completion: cost and time; resource management and weekly progress update.

Engineering Basis (validation):
Typical validated elements include: 1st-order physics understood and validated = identify and develop necessary analysis/modeling/testing, preliminary testing – key metrics' parameters/bounds and engineering requirements for project, resource management and weekly progress update.

by end of Phase 2

Concept Design milestone; evidence = 1) peer evaluations; 2) formal evaluation of online logbook: concept design including engineering basis (validation) and plan update; 3) oral presentation at UD – audience = design staff and design class – summarizing design and validation process; 4) written report summarizing design and validation.