ProgramLevel Assessment Plan

Program: BS Aerospace Engineering

Department: Aerospace & Mechanical Eng

Date/(/that do the program faculty

Degree Level (e.g., UG or Cartificate, UG major, master's program, doctoral progratud major College/SchoolSchool of Science and Engineering

2 Students will be able tapply engineering methods to design aerospace systems that meet specified mission needs with consideration of public

	contexts.	Design II professional panel review of	
		end-of-semester presentation	
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Use of Assessment Data

- 1. How and when will analyzed data be used by gramfaculty to make changes in pedagogy, curriculum design, and/or asses practices?

 The appropriate outcomes will be assessed each fall based on prior academic year(s) data in meetings of the full de place to the seed the seed on prior academic year(s). The overall assessment plan will be reviewed every two years.
- 2. How and when will the rogram faculty-evaluate the impact of assessmein formed changes made in previous years? The full department assessment meetings also include review of prior changes to assess their effectiveness.

Additional Questions

1. On what schedule/cycle with ogram faculty assess each of the ogram's studentearning outcomes? P(lease onte: It is not recommended to try to assess every outcome every year.)



Example Rubrics

Example rubrics are provided below. Not all rubrics are available at this tupeated versions will be provided with the annual reports for the appropriate outcomes.

OUTCOME 1:

MENG 2150 Dynamics

Indicator	Below Expectations	Meets Expectations	Above Expectations
Ability to analyze and solve two	Student fails to solve the problem du	Student uses mostly proper	Student uses proper
dimensional rigid body kinematic	to significantly improper procedures,	procedures to formulate and	procedures to formulate
problems involving rotation around a	nincorrect equations, incomplete work	, solve the resulting governing	and solve the governing
external instantaneous center of zero	and/or significant mathematical	equation with at most a few	equations with minimal
velocity.	errors.	errors.	errors.

MENG 3200 Fluid Dynamics

Indicator	Below Expectations	Meets Expectations	Above Expectations
Ability to formulate and solve a two dimensional control volume mass momentum conservation problem.	Student fails to solve the problem due to significantly improper procedures, incorrectequations, incomplete work, and/or significantmathematical errors.	Student uses mostly proper procedures to formulate and solve theresulting governing equation with at most a few errors.	Student uses proper procedures to formulate and solve the governingquations with minimalerrors.

Indicator	Below Expectations	Meets Expectations	Above Expectations
Ability to formulate and BuckinghamPIdimensional analysisproblem.	Student fails to solve theroblem due to significantly improperocedures, incorrect		

OUTCOME 2: AENG 2020 Introduction to Aerospace Engineering

Indicator	Below Expectations	Meets Expectations	Above Expectations
Ability to conduct design analysis to predict prototype performance	Multiple expected analyses in the project report are absent and/orhave major errors	All the primary analyses are included and easonably completed but with some errors	All primary analyses are included and completedwith minimal errors

²⁾ Ability to prototypeand

Indicator Above Expectations **Below Expectations** Meets Expectations 1) Ability to communicate Sections of the project report

in an orderly and complete manner.

5) Overall communication quality.	Report fails to convernain points of thelab without significantparsingand re reading ofsections, if at all.	Report conveyinformation in a sufficientlylogical, efficient, precise, and complete manner sucthat the main points of the lab are generallyunderstood with a single read.	Report conveyinformation in a logical, efficient, precise, and complete manner such that the lab is fully understood with a single read.

OUTCOME 4: AENG 2020 Introduction to Aerospace Engineering

Indicator	Below Expectations	Meets Expectations	Above Expectations
Ability to identify and describe an ethical issueelated to engineering.	Unable to identify and/or accurately describe an ethical issue in a mannerrelevant to engineering	Able to identify and accurately describe the ethics of an engineeringsituation	Able to identify and accurately describe thethics of an engineeringsituation and place it in a broader context
2) Ability to explain the impact of engineeringdecisions in a global, economic, environmental, and/or social context.	Explanation of impact is absent or rudimentary;the context is poorly defined.	Explanation of impact is substantive and itselation to at least onebroader context is clearly defined	Explanation of impact its norough and substantively connected to multiple types of broader context.
Ability toapplyengineering ethicalcodes to specificituations	No specific application of engineering ethicatode is made.	At least one aspect of an engineering ethical code is applied in a relevantnanner.	Multiple aspects of engineering ethical codes are applied in melevant and contextualized manner.

OUTCOME 5:

AENG 4014 Flight Vehicle Analysis and Design II

	Unsatisfactory	Marginal	Good	Excellent	Outstanding
Team Management	Team fails repeatedly in terms of preparation, work structure, work expectations, and maintaining schedules.	Team has lapses in preparation, work structure, work expectations, and maintaining schedules which are sometimes allowed to linger.	Team has lapses in preparation, work structure, work expectations, and maintaining schedules, but consistentlycorrects theseissues in a prompt fashion.	Team is mostlprepared, mostlyfollows a definedwork structure and expectations, and is generallpn schedule.	Team is consistentlyprepared, has adefined work structure andexpectations, and ison or ahead of schedule.

Collaborative Work Some team members are effectively excluded from participating in project planning,developm

planning,development, and work.

The full team does not regularly participate inproject planning,development, andwork efforts, with

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3) Discussion and Conclusions

There is no significant discussion or conclusions drawnfrom the lab.

The discussion and bnclusions cover expected topics

The discussion and bnclusions provide further information than the standard

OUTCOME 7:

SE 1700 Engineering Fundamentals

Criteria	Ratings					Pts
First Research Question The research question is a) relevant to your part of the project, b) involves a question to be answered or something to be learned, and c) is narrow enough that it can be resolved with a search.	6 pts Full Marks	5 pts Some answers are incomplete or missing	4 pts Mostly there	2 pts Lots of missing items	0 pts Didn't do this	6 pts
Second Research Question The research question is a) relevant to your part of the project, b) involves a question to be answered or something to be learned, and c) is narrow enough that it can be resolved with a search.	6 pts Full Marks	5 pts Some answers are incomplete or missing	4 pts Mostly there	2 pts Lots of missing items	0 pts Didn't do this	6 pts
Third Research Question The research question is a) relevant to your part of the project, b) involves a question to be answered or something to be learned, and c) is narrow enough that it can be resolved with a search.	6 pts Full Marks	5 pts Some answers are incomplete or missing	4 pts Mostly there	2 pts Lots of missing items	0 pts Didn't do this	6 pts

Reference 1-1

Explanation for Reference 1-1 [Note: the first number is the question, the second is the reference] Explains why this reference was selected and what was learned Repeat for References 1-2 to 1-3, 2-1 to 2-3, and 3-1 to 3-3.	3 pts Full Marks	2.5 pts Decent effort, but incomplete answers	1.5 pts Only did 1 of the 2 (why selected or what was learned)	0 pts Didn't do this	3 pts
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Criteria	Ratings				Pts
Found a technical citation style	3 pts Full Marks	Fo	pts und a style, but it's not a chnical one	0 pts Did not cite a style	3 pts
Implemented the Style consistently	6 pts Full Marks	5 pts Mostly there	3 pts A few egregious mistakes	0 pts Wildly inconsistent or no style evident	6 pts
Total Points: 90	•			- 1	