

Cover Sheet: Request 10301

EAS4700 Aerospace Design 1

Info

Process	Course Modify Ugrad/Pro
Status	Pending
Submitter	Carroll, Bruce F bfc@ufl.edu
Created	7/9/2015 2:53:59 PM
Updated	11/16/2015 1:06:29 PM
Description	Applications of the principles of analysis and design to aerospace vehicles. Emphasis on astronautics.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Mechanical and Aerospace Engineering 011902000	Carroll, Bruce F		7/9/2015
Added ucc2 EAS4700.docx					7/9/2015
College	Approved	ENG - College of Engineering	Caple, Elizabeth		10/7/2015
No document changes					
University Curriculum Committee	Comment	PV - University Curriculum Committee (UCC)	Baker, Brandi N	Added to November agenda.	10/27/2015
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			10/27/2015
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Current SCNS Course Identification			
1. Prefix: EAS	2. Level: 4	3. Number: 700	4. Lab Code: None
5. Course Title: Aerospace Design 1			

Requested Action	
6. Effective Term: Earliest Available	7. Effective Year: Earliest Available
8. Action: Terminate Course <input type="checkbox"/> Other <input checked="" type="checkbox"/> (Skip to item 24 on this form.) (Indicate all changes below.)	

If you select "yes" to change any item below, complete the corresponding "current" and "proposed" fields.

Item	Change?	Current	Proposed
9. Course Prefix:	Yes <input type="checkbox"/>		
10. Course Level:	Yes <input type="checkbox"/>	Select	Select
11. Course Number:	Yes <input type="checkbox"/>		
12. Lab Code*:	Yes <input type="checkbox"/>	Select	Select
13. Course Title:	Yes <input type="checkbox"/>		
14. Transcript Title: (21 characters max)	Yes <input type="checkbox"/>		
15. Credit Hours*:	Yes <input type="checkbox"/>	Select	Select
16. Variable Credit*:	Yes <input type="checkbox"/>	Min and max credits per semester	Min and max credits per semester
17. S/U Only:	Yes <input type="checkbox"/>	Select	Select
18. Contact Type*:	Yes <input type="checkbox"/>	Select Contact Type	Select Contact Type
19. Rotating Topic:	Yes <input type="checkbox"/>	Select	Select
20. Repeatable Credit*:	Yes <input type="checkbox"/>	Select	Select
21. Course Description*: (50 words or fewer.)	Yes <input checked="" type="checkbox"/>	Applications of the principles of analysis and design to aerospace vehicles.	Applications of the principles of analysis and design to aerospace vehicles. Emphasis on astronautics.
22. Prerequisites:	Yes <input type="checkbox"/>		
23. Co-requisites:	Yes <input type="checkbox"/>		

* If the request is for a change in lab code, credit hours, contact type or course description, a syllabus must be attached and the syllabus checklist on the next page of this form must be completed.

24. Rationale and Placement in Curriculum

This course serves as the capstone design course for the bachelor of science degree in aerospace engineering. The course is taken during the senior year of the degree program.

Syllabus Requirements Checklist

The University's complete Syllabus Policy can be found at: http://www.aa.ufl.edu/Data/Sites/18/media/policies/syllabi_policy.pdf

The syllabus of the proposed course **must** include the following:

- Course title
- Instructor contact information (if applicable, TA information may be listed as TBA)
- Office hours during which students may meet with the instructor and TA (if applicable)
- Course objectives and/or goals
- A weekly course schedule of topics and assignments.
- Methods by which students will be evaluated and their grades determined
- Information on current UF grading policies for assigning grade points. This may be achieved by including a link to the appropriate undergraduate catalog web page: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.
- List of all required and recommended textbooks
- Materials and Supplies Fees, if any
- A statement related to class attendance, make-up exams and other work such as: *"Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>."*
- A statement related to accommodations for students with disabilities such as: *"Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation."*
- A statement informing students of the online course evaluation process such as: *"Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>."*

It is **recommended** that the syllabus contain the following:

- Critical dates for exams or other work
- Class demeanor expected by the professor (e.g. tardiness, cell phone usage)
- The university's honesty policy regarding cheating, plagiarism, etc.

Suggested wording: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

- Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies

Syllabus

EAS4700 Aerospace Design 1

1. **Catalog Description:** Applications of the principles of analysis and design to aerospace vehicles. Emphasis on astronautics. (3 credit hours)
2. **Pre-requisites and Co-requisites:** EAS4510 and EML4312
3. **Course Objectives:** Provide the student with a firm grasp of the fundamentals of the design process by carrying out a complete preliminary design of an astronautical system, including the evaluation of economic performance, starting from a brief set of basic specifications. This design effort culminates in the preparation of a professional quality design report describing the design process and resulting design.
4. **Instructor:** Norman Fitz-Coy
 - a. Office location: 206 MAEA
 - b. Telephone: 392-1029
 - c. E-mail address: nfc@ufl.edu
 - d. Office Hrs MW 3rd period
5. **Teaching Assistant:** To be announced
6. **Meeting Times and Location:**
 - a. **Lectures**
Monday and Wednesday 9-10 periods in PUGH170
7. **Material and Supply Fees:** None
8. **Textbooks Required:** None. Course material developed by the instructor will be provided. This instructor developed material covers topics on spacecraft systems, mission planning, and engineering design concepts.
9. **Recommended Reading:** Brown, C., *Elements of Spacecraft Design*, 1st Edition, AIAA Education Series, 2003.
10. **Course Outline and Schedule:** See the detailed schedule available at <https://lss.at.ufl.edu/> (use Canvas system)

Week 1: Overview. System engineering and problem definition.

Week 2: Initiate group design project

Week 3: Orbital mechanics considerations

Week 4: Propulsion considerations

Week 5: Attitude control considerations

Week 6: Power system considerations

Week 7: Thermal control considerations

Week 8: Preliminary design review

Week 9: Command and data systems

Week 11: Structural design
Week 12: Cost analysis
Week 13: Design reviews
Week 14: Design reviews
Week 15: Final Design Presentations and Final Exam

11. Assessment Methods and Grading:

- | | |
|------------------------------|-----|
| a. Homework | 15% |
| b. Attendance | 5% |
| c. Final Exam | 25% |
| d. Preliminary Design Report | 15% |
| e. Final Design Report | 40% |

If a student thinks there is an error in the grading, it should be brought to the attention of the instructor within two weeks after the graded material is handed back. Scores will not be reconsidered beyond the two week period.

Homework will be assigned weekly during the first half of the course. Students will work in teams on a major design project. The preliminary design report and final design report will be graded. Interim design reviews will be critiqued to provide feedback to the design teams but will not be included in the final grade.

The format for all reports will be provided in class.

12. Grading Scale:

93 – 100: A	87 – 89.9: B+	77 – 79.9: C+	67 – 69.9: D+	0 – 59.9: E
90 – 92.9: A-	83 – 86.9: B	73 – 76.9: C	63 – 66.9: D	
	80 – 82.9: B-	70 – 72.9: C-	60 – 62.9: D-	

See the current undergraduate catalog for information on how grade points are assigned: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

- 13. Class Attendance and Make-up Policy:** Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at:
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Attendance is mandatory and will count 5% of the overall grade. Excused absences will be given for documented reasons listed in the university attendance policy referenced above.

Late assignments and makeup exams are not normally allowed. Arrangements for late assignments or makeup exams will be made on a case by case basis for excused absences.

- 14. Class Demeanor Expectations:** During class, cell phones must be turned off or set to silent ring.
- 15. Accommodation for Students with Disabilities:** Students requesting classroom accommodation must first register with the Disability Resource Center. That office will

provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

16. **Online Course Evaluations:** Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.
17. **Honesty Policy:** UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.
18. **UF Counseling Services:** Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
 - UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
 - Career Resource Center, Reitz Union, 392-1601, career and job search services.