

Program Change Request

Date Submitted: 10/18/18 3:49 pm

Viewing: **BS-AERO : Aerospace Engineering - BS**

Last approved: 03/20/18 3:10 pm

Last edit: 11/08/18 8:00 pm

Changes proposed by: escamc

Catalog Pages Using
this Program

[Aerospace Engineering - BS](#)

Contact(s)

Name	E-mail	Phone
Christina Escamilla	escamc@tamu.edu	9798452685

Academic level	Undergraduate
Effective Term	2019-2020
Department	Aerospace Engineering
College	Engineering
Program type	Degree
Degree designation	BS - Bachelor of Science
With a major in	Aerospace Engineering (AERO)
Associated Program	Not Applicable
Catalog Program Title	Aerospace Engineering - BS
CIP and Fund code	14020100

Rationale for Proposal

Updating catalog and adding program requirements of approved curriculum changes for AERO Department

Program hours	128
Is this program eligible for financial aid?	Yes
Will program hours change (increase/decrease) due to the proposed curriculum changes?	No
Program delivery mode	On-campus

In Workflow

1. **AERO Department Head**
2. **Curricular Services Review**
3. **EN Committee Preparer UG**
4. **EN Committee Chair UG**
5. **EN College Dean UG**
6. **UCC Preparer**
7. **UCC Chair**
8. **Faculty Senate Preparer**
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services

Approval Path

1. 10/18/18 3:52 pm
Rodney Bowersox (bowersox): Approved for AERO Department Head
2. 10/19/18 1:59 pm
Angel Mario Carrizales (carr1214): Approved for Curricular Services Review
3. 10/22/18 5:31 pm
Eileen Hoy (ehoy): Approved for EN Committee Preparer UG
4. 10/22/18 8:52 pm
Prasad Enjeti (enjeti): Approved for EN Committee Chair UG
5. 10/23/18 10:07 am
Prasad Enjeti (enjeti): Approved for EN College Dean UG
6. 11/06/18 9:16 am
Sandra Williams (sandra-williams): Approved for UCC Preparer
7. 12/10/18 10:58 am
Terra Bissett (t.bissett): Approved for UCC Chair

History

1. Feb 13, 2017 by Sandra Williams (sandra-williams)
2. Mar 20, 2018 by Christina Escamilla

Catalog Program Requirements

Plan of Study Grid

Second Year

Fall

		Semester Credit Hours
AERO 201	Introduction to Flight 1	3
AERO 212	Introduction to Aerothermodynamics 1	3
AERO 211	Aerospace Engineering Mechanics	3
MATH 251	Engineering Mathematics III 1	3
PHYS 207	Electricity and Magnetism for Engineering and Science 1	3
PHYS 217/ENGR 217	Experimental Physics and Engineering Lab III - Electricity and Magnetism 12	12
Select one from the following:		3
COMM 203	Public Speaking 1	
COMM 205	Communication for Technical Professions 1	
COMM 243	Argumentation and Debate 1	
ENGL 210	Technical and Business Writing 1	
Semester Credit Hours		17

Spring

AERO 210	Introduction to Aerospace Mechanics 1	3
AERO 212	Introduction to Aerothermodynamics	3
AERO 214	Introduction to Aerospace Mechanics of Materials 1	3
AERO 222	Introduction to Aerospace Computation 1	3
ECEN 215	Principles of Electrical Engineering 1	3
MATH 308	Differential Equations 1	3
High Impact Experience 6		0
AERO 299	Mid-Curriculum Professional Development 7	
Semester Credit Hours		15

Third Year

Fall

AERO 301	Theoretical Aerodynamics 1	3
AERO 304	Aerospace Structural Analysis I 1	3
AERO 307	Aerospace Engineering Laboratory 1	3
AERO 310	Aerospace Dynamics 1	3
University Core Curriculum	3	6
Semester Credit Hours		18

Spring

AERO 303	High Speed Aerodynamics 1	3
AERO 306	Aerospace Structural Analysis II 1	3
AERO 321	Dynamics of Aerospace Vehicles 1	3
AERO 351	Aerothermodynamics and Propulsion 1	3
University Core Curriculum	3	3
Semester Credit Hours		15

Fourth Year

Fall

AERO 401	Aerospace Vehicle Design I 1,7	3
AERO 413	Aerospace Materials Science	3
AERO 423	Orbital Mechanics	3
AERO 430	Numerical Simulation	3
or MATH 401	or Advanced Engineering Mathematics	

Select one of the following: 3

AERO 405	Aerospace Structural Design	
AERO 417	Aerospace Propulsion	
AERO 426	Space System Design	
AERO 428	Electromagnetic Sensing for Space-Borne Imaging	
AERO 451	Human Spaceflight Operations	
AERO 472	Airfoil and Wing Design	
Semester Credit Hours		15

Spring

AERO 402	Aerospace Vehicle Design II 7	2
AERO 422	Active Controls for Aerospace Vehicles	3
AERO 452	Heat Transfer and Viscous Flows	3
ENGR 482/PHIL 482	Ethics and Engineering	3

Select two of the following: 6

AERO 404	Mechanics of Advanced Aerospace Structures	
AERO 405	Aerospace Structural Design	

AERO 406	Polymer Nanocomposites and their Applications
AERO 417	Aerospace Propulsion
AERO 419	Chemical Rocket Propulsion
AERO 420	Aeroelasticity
AERO 424	Spacecraft Attitude Dynamics and Control
AERO 425	Flight Test Engineering
AERO 426	Space System Design
AERO 428	Electromagnetic Sensing for Space-Borne Imaging
AERO 430	Numerical Simulation
AERO 435	Aerothermochemistry
AERO 440	Cockpit Systems and Displays
AERO 445	Vehicle Management Systems
AERO 451	Human Spaceflight Operations
AERO 455	Helicopter Aerodynamics
AERO 472	Airfoil and Wing Design
AERO 489	Special Topics in...
ECEN 421	Digital Control Systems
ENGR 385	Problems for Co-Op Students

University Core Curriculum 3

Semester Credit Hours	3
Total Semester Credit Hours	17
	97

6All students are required to complete a high-impact experience in order to graduate. The list of possible high-impact experiences is available in the AERO advising office.

7A two-semester sequence is required.

Total Program Hours 128

Additional information

Required Proposal	DEGEVAL 2018-2019 Catalog(2).pdf
Forms	012218PresidentApprovalMemo.pdf 19 20 Degree Evaluation for Catalog.pdf
Reviewer Comments	Angel Mario Carrizales (carri1214) (10/19/18 1:58 pm): Edits made to conform to catalog style guidelines. Terra Bissett (t.bissett) (12/10/18 10:58 am): UCC approved December 2018.

Key: 557


[Print](#)

Detail Requirements

Christina Escamilla
Oct 15, 2018 04:38 pm

Viewing: [Degree Evaluation \(DEGEVAL, , Email\)](#)
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Information for Degree Evaluation

 This is NOT an official evaluation.

Print Instructions

Program Evaluation

Limitation Correspondence: No more than 12 hours of correspondence earned through an accredited institution may be used for an undergraduate degree.

Limitation Combination: Maximum combination of 18 hours of 481, 482, 485 and/or 491 courses may be used for an undergraduate degree.

Limitation No more than 50% of courses required for the degree plan can be taken as Distance Education Courses for non-distance degree programs.

Limitation Only one of the following will satisfy the requirements for a degree: GENE 301, GENE 302, GENE 315, and GENE 320.

Limitation Only one of the following will satisfy the requirements for a degree: MATH 131, MATH 142, MATH 147, MATH 151, and MATH 171.

Limitation Only one of the following will satisfy the requirements for a degree: MATH 140, MATH 141, and MATH 166.

Limitation Only one of the following will satisfy the requirements for a degree: MATH 148, MATH 152, and MATH 172.

Limitation Only one of the following will satisfy the requirements for a degree: MATH 221, MATH 251, and MATH 253.

Limitation Only one of the following will satisfy the requirements for a degree: MATH 304, MATH 309, MATH 311, and MATH 323.

Limitation Only one of the following will satisfy the requirements for a degree: STAT 301, STAT 302, and STAT 303.

Program :	BS AERO	Catalog Term :	Fall 2018 - College Station
Campus :	College Station	Evaluation Term :	Fall 2018 - College Station
College :	Engineering	Expected Graduation Date :	
Degree :	Bachelor of Science	Request Number :	77
Level :	Undergraduate	Results as of :	Oct 15, 2018
Majors :	Aerospace Engineering	Minors :	
Departments :	Aerospace Engineering	Concentrations :	

	Met Credits		Courses	
	Required	Used	Required	Used
Total Required :	No	128.000	0.000	0
Program GPA :	Yes	.00	.00	
Overall GPA :	No	2.00	.00	
Other Course Information				
Transfer :			0.000	0

This is NOT an official evaluation.

Area Major Coursework (44.000 credits) - Not Met
:

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits	Gra
No	A.		AERO 201	3hrs										

Must make a grade of 'C' or better.

- No AND B. ~~AERO 210 3hrs~~ **⊕ AERO 211**
Must make a grade of 'C' or better.
- No AND C. AERO 212 3hrs
Must make a grade of 'C' or better.
- No AND D. AERO 214 3hrs
Must make a grade of 'C' or better.
- No AND E. AERO 222 3hrs
Must make a grade of 'C' or better.
- No AND F. AERO 301 3hrs
Must make a grade of 'C' or better.
- No AND G. AERO 307 3hrs
Must make a grade of 'C' or better.
- No AND H. AERO 303 3hrs
Must make a grade of 'C' or better.
- No AND I. AERO 304 3hrs
Must make a grade of 'C' or better.
- No AND J. AERO 306 3hrs
Must make a grade of 'C' or better.
- No AND K. AERO 310 3hrs
Must make a grade of 'C' or better.
- No AND L. AERO 321 3hrs
Must make a grade of 'C' or better.
- No AND M. AERO 351 3hrs
Must make a grade of 'C' or better.
- No AND N. AERO 401 3hrs
Must make a grade of 'C' or better.
- No AND O. AERO 402 2hrs

Total Credits and GPA 0.000

unofficial evaluation

Area Supporting Coursework (35.000 credits) - Not Met

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits	Gra
No		A.	ENGR 102 2hrs											
No	AND	B.	MATH 251 3hrs											
No	AND	C.	MATH 308 3hrs											
No	AND	D.	Advanced MATH 3hrs											
No	AND	E.	ECEN 215 3hrs											
No	AND	F.	AERO 413 3hrs											
No	AND	G.	AERO 422 3hrs											
No	AND	H.	AERO 423 3hrs											
No	AND	I.	AERO 452 3hrs											
No	AND	J.	AERO Electives 3hrs											

- No AND K. Technical Electives 6hrs
Select from AERO 405, 417, 426, 428, 451, 472.
- No AND L. Technical Electives 6hrs
Select from AERO 404-406, 417, 419-420, 422, 424-426, 428, 430, 435, 440, 445, 451, 455, 472, 489; ECEN 421; ENGR 385.

Total Credits and GPA 0.000

unofficial evaluation

Area Communication (6.000 credits) - Not Met

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits	Gra
No		A.	ENGL 103 or ENGL 104				3hrs							
No	AND	B.	Communication Rqmt				3hrs							

Total Credits and GPA 0.000

unofficial evaluation

Area Mathematics (8.000 credits) - Not Met

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits	Gra
No		A.	MATH 151											
No	AND	B.	MATH 152											

Total Credits and GPA 0.000

unofficial evaluation

Area Life and Physical Sciences (14.000 credits) - Not Met

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits	Gra
No		A.	CHEM 107 and 117				4hrs							
No	AND	B.	PHYS 206				3hrs							
No	AND	C.	PHYS 207				3hrs							
No	AND	D.	ENGR 216/PHYS 216				2hrs							
No	AND	E.	ENGR 217/PHYS 217				2hrs							

Total Credits and GPA 0.000

unofficial evaluation

Area Language, Philosophy & Culture (3.000 credits) - Not Met

:

Met Condition Rule Subject Attribute Low High Required Required Term Subject Course Title Attribute Credits Gra
Credits Courses

No A. ~~FNCR 483 3hrs~~ **Any LPC**

Total Credits and GPA 0.000

unofficial evaluation

Area Creative Arts (3.000 credits) - Not Met

:

Met Condition Rule Subject Attribute Low High Required Required Term Subject Course Title Attribute Credits Gra
Credits Courses

No A. Creative Arts Requirement 3hrs
 Select three hours from any course with the Creative Arts attribute [KCRA].

Total Credits and GPA 0.000

unofficial evaluation

Area Social and Behavioral Sciences (3.000 credits) - Not Met

:

Met Condition Rule Subject Attribute Low High Required Required Term Subject Course Title Attribute Credits Gra
Credits Courses

No A. Social Science Rqmt 3hrs
 Select from courses with the Social and Behavioral Science attribute [KSOC].

Total Credits and GPA 0.000

unofficial evaluation

Area : Citizenship (12.000 credits) - Not Met

Description Completion of 4 semesters of Upper-Level ROTC may be substituted for 3 hours of American History and 3 hours of Political Science.

:

Met Condition Rule Subject Attribute Low High Required Required Term Subject Course Title Attribute Credit
Credits Courses

No A. American History Rqmt 6hrs
 Select from any course with the [KHIS] attribute.

No AND B. Political Science Rqmt 6hrs
 Take POLS 206 and POLS 207.

Total Credits and GPA 0.0

unofficial evaluation

Area : Work Not Applied - Met

Description See advisor for acceptable substitutions.

:

Met Condition Rule Subject Attribute Low High Required Required Term Subject Course Title Attribute Credit
Credits Courses

No A. Courses not applied

Complete one of the following:
 1. Two years of the same foreign language in High School.
 2. A two semester sequence of the same foreign language for University credit.

Total Credits and GPA 0.000

unofficial evaluation

Area : Residence Requirement - Not Met

Description A minimum of 36 hours of 300-400 level coursework must be completed at Texas A&M University. 12 hours must be in the major field.
:

Met	Condition	Rule	Subject	Attribute	Low	High	Required Credits	Required Courses	Term	Subject	Course Title	Attribute	Credits
No		A.	Residence-Major	12hrs				Select from AERO 300-499.					
No	AND	B.	Residence 300-499	24hrs				Select any courses level 300-499.					

Total Credits and GPA 0.0

unofficial evaluation

Area GPR-Major - Not Met

:

Met **Condition** **Rule** **Subject** **Attribute** **Low** **High** **Required Credits** **Required Courses** **Term** **Subject** **Course Title** **Attribute** **Credits** **Gra**

No		A.	Major GPR	46+hrs				Select from AERO 100-499. Must maintain a GPR of 2.0 in this area.					
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Total Credits and GPA 0.000

unofficial evaluation

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