



HOMEWOOD-FLOSSMOOR HIGH SCHOOL COURSE SCOPE & SEQUENCE



Semester 1 '10 – '11 Department: **Applied Academics** Course: **Intro to Engineering Design** Instructor(s): **Beebe**
 This course is aligned to: **College Readiness Standards and/or College Board Standards** Other:

*The Homewood-Flossmoor High School Course Scope & Sequence provides parents and students with a semester-long overview of each class that we offer. **An instructor may alter a course's scope & sequence as needed.** Students are responsible for keeping track of due dates and other pertinent course information in their H-F Student Planners. Parents, please contact your child's teacher by telephone or e-mail to clarify any questions you may have about the scope & sequence of a particular course.*

WEEK	COLLEGE READINESS AND/OR COLLEGE BOARD CONTENT STANDARDS	INSTRUCTIONAL CONTENT	ACTIVITIES, READINGS, LABS, AND/OR ASSIGNMENTS	MAJOR ASSESSMENTS	OTHER
WEEK #1 8/16 – 8/20 No school: 8/16 & 8/17	E.I.d.3 W.I.c.1 W.III.d.1 M.I.a.1, 2, 3	Lesson 1.1 – Introduction to a Design Process			
WEEK #2 8/23 – 8/27	E.I.d.3 W.I.c.1 W.III.d.1 M.I.a.1, 2, 3	Lesson 1.1 – Introduction to a Design Process	Activity 1.1.1 Beverage Container Activity 1.1.2 – Product Evolution		
WEEK #3 8/30 – 9/3 PLC day: 9/3	E.I.d.3 W.I.c.1 W.III.d.1 M.I.a.1, 2, 3	Lesson 1.1 – Introduction to a Design Process Lesson 1.2 – Introduction to Technical Sketching and Drawing	Activity 1.1.3 Gossamer Condor Activity 1.2.1 Isometric Sketches		
WEEK #4 9/6 – 9/10	E.I.d.3 W.I.c.1 W.III.d.1 R.II.d.1	Lesson 1.2 – Introduction to Technical Sketching	Activity 1.2.1 Isometric Sketches		



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No school: 9/6 Pep assembly: 9/10	M.I.a.1, 2, 3 M.V.d.4 M.VII.e.1	and Drawing	Activity 1.2.2 Oblique Sketches		
WEEK #5 9/13 – 9/17	E.I.d.3 W.I.c.1 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.V.d.4 M.VII.e.1	Lesson 1.2 – Introduction to Technical Sketching and Drawing	Activity 1.2.3 Perspective Sketches Activity 1.2.4 Multiview Sketches		
WEEK #6 9/20 – 9/24 PLC day: 9/24	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1	Lesson 1.3 – Measurement and Statistics	Activity 1.3.2 English and Metric Linear Measurements Activity 1.3.3 fischertechnik [®] Block Measurement	Project 1.3.1 History of Measurement	
WEEK #7 9/27 – 10/1	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1	Lesson 1.3 – Measurement and Statistics	Activity 1.3.4 Linear Dimensions Activity 1.3.5 Applied Statistics	Quarter Test	
WEEK #8 10/4 – 10/8 PLC day: 10/8	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1	Lesson 1.4 – Puzzle Cube	Activity 1.4.2 Puzzle Part Combinations	Project 1.4.1 Puzzle Design Challenge	
WEEK #9 10/11 – 10/15	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3	Lesson 1.4 – Puzzle Cube		Project 1.4.1 Puzzle Design Challenge	



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No school: 10/11 All School Testing: 10/13	M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1				
WEEK #10 10/18 – 10/22 End of 1 st Quarter: 10/22	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1	Lesson 1.4 – Puzzle Cube	Activity 1.4.3 Puzzle Cube Package	Project 1.4.1 Puzzle Design Challenge	



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WEEK	COLLEGE READINESS AND/OR COLLEGE BOARD CONTENT STANDARDS	INSTRUCTIONAL CONTENT	ACTIVITIES, READINGS, LABS, AND/OR ASSIGNMENTS	MAJOR ASSESSMENTS	OTHER
WEEK #11 10/25 –10/29 PLC day: 10/29	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 2.1 – Geometric Shapes and Solids	Activity 2.1.2 Calculating Properties of Shapes Activity 2.1.3 Making Sketches in CAD	Project 2.1.1 Shape and Measurement Madness	
WEEK #12 11/1 – 11/5 Parent/teacher Conferences: 11/4 No school: 11/5	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 2.1 – Geometric Shapes and Solids	Activity 2.1.4 Calculating Properties of Solids Activity 2.1.5 CAD Model Features	Project 2.1.6 Modeling Creation	
WEEK #13 11/8 –11/12 No school: 11/11	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 2.2 – Dimensions and Tolerances	Activity 2.2.1 What Is Wrong with This Picture? Activity 2.2.2 Model Dimensioning		
WEEK #14 11/15 –11/19 PLC day: 11/19	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 2.2 – Dimensions and Tolerances	Activity 2.2.3 Tolerances		
WEEK #15 11/22 – 11/26 No school: 11/25 &11/26	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 2.3 – Advanced Modeling Skills	Activity 2.3.2 Parametric Constraints	Project 2.3.1a Miniature Train	
WEEK #16	E.I.d.3 W.III.d.1	Lesson 2.3 – Advanced	Activity 2.3.3 Auxiliary	Project 2.3.1a	



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11/29 – 12/3	R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Modeling Skills	Views Activity 2.3.4 Sectional Views	Miniature Train	
WEEK #17 12/6 – 12/10 PLC day: 12/10	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 2.3 – Advanced Modeling Skills	Activity 2.3.5 Assembly Models	Project 2.3.1a Miniature Train	Quarter Test
WEEK #18 12/13 – 12/17	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 2.3 – Advanced Modeling Skills Lesson 2.4 – Advanced Designs	Activity 2.3.6 Detail Drawing Rubric Activity 2.3.6 Miniature Train	Project 2.3.1a Miniature Train Project 2.4.1 Design Challenge	
WEEK #19 1/3 – 1/7	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 2.4 – Advanced Designs		Project 2.4.1 Design Challenge	
WEEK #20 1/10 – 1/14 Finals: 1/11 – 1/13 Marking Day 1/14		Finals	Finals	Finals	



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WEEK #1 1/17 – 1/21 No school: 1/17	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 3.1 – Visual Analysis	Activity 3.1.1 Visual Design Principles and Elements Identification Activity 3.1.2 Visual Design Principles and Elements Study		
WEEK #2 1/24 – 1/28 PLC day: 1/28	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 3.1 – Visual Analysis	Activity 3.1.3 What's going on in this graphic design?		
WEEK #3 1/31 – 2/4	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3	Lesson 3.2 – Functional Analysis	Activity 3.2.1 Product Observation		



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	M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2				
WEEK #4 2/7 – 2/11 PLC day: 2/11	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 3.3 – Structural Analysis	Activity 3.3.2a Product Disassembly Chart 3.3.2b Materials Usages Chart	Project 3.3.4 – Product Disassembly Display	
WEEK #5 2/14 – 2/18	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 3.3 – Structural Analysis	Activity 3.3.3 Mass Property Analysis	Project 3.3.4 – Product Disassembly Display	
WEEK #6 2/21 – 2/25 No school: 2/21 PLC day: 2/25	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 3.3 – Structural Analysis		Project 3.3.4 – Product Disassembly Display oral presentation	
WEEK #7 2/28 – 3/4	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 3.4 – Product Improvement by Design	Activity 3.4.1 Writing a Design Brief Activity 3.4.2 The Deep Dive		
WEEK #8 3/7 – 3/11 No School:	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3	Lesson 3.4 – Product Improvement by Design	Activity 3.4.2 The Deep Dive	Problem 3.4.3 Product Improvement	



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3/7 & 3/8	M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2				
WEEK #9 3/14 – 3/18 PLC day: 3/18	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 3.4 – Product Improvement by Design		Problem 3.4.3 Product Improvement	Quarter Test
WEEK #10 3/21 – 3/25 End of 1 st Quarter: 3/25	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 3.4 – Product Improvement by Design		Problem 3.4.3 Product Improvement	



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WEEK #11 4/4 – 4/8	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 4.1 – Engineering Design Ethics	Activity 4.1.1 Product Lifecycle and Recycling Activity 4.1.1 and present to the class		
WEEK #12 4/11 – 4/15 PLC day: 4/15	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 4.1 – Engineering Design Ethics		Problem 4.1.2 Engineering Design Ethics Design Brief	
WEEK #13 4/18- 4/22 No school: 4/22	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 4.2 – Design Teams	Activity 4.2.2 Team Norms	Project 4.2.1 Virtual Design Challenge	
WEEK #14 4/25 – 4/29 PSAE: 4/27 & 4/28	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 4.2 – Design Teams		Project 4.2.1 Virtual Design Challenge	
WEEK #15	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3	Lesson 4.2 – Design Teams		Project 4.2.1 Virtual Design Challenge	



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5/2 – 5/6 PLC day: 5/6	M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2				
WEEK #16 5/9 – 5/13	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 4.2 – Design Teams		Project 4.2.1 Virtual Design Challenge	PLTW IED Exit Exam
WEEK #17 5/16 – 5/20 PLC day: 5/20	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 4.2 – Design Teams		Project 4.2.1 Virtual Design Challenge	PLTW IED Exit Exam
WEEK #18 5/23 – 5/27 Seniors’ last day: 5/26	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Lesson 4.2 – Design Teams		Project 4.2.1 Virtual Design Challenge Presentations	
WEEK #19 5/30 – 6/3 No school: 5/30 Final Exams:	E.I.d.3 W.III.d.1 R.II.d.1 M.I.a.1, 2, 3 M.II.e.2 M.II.f.1 M.IV.d.1 M.V.d.4 M.VII.e.1 S.I.c.2	Finals	Finals	Finals	



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5/31 – 6/2 Marking Day: 6/3					
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