**Date** 2012-13 **Name of Administrative or Educational t Unit:** \_\_Engineering Field of Study

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**Mission:**

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| The Engineering Field of Study is preparation for a Bachelor of Science in several disciplines within the school of engineering at a college or university. The completed Field of Study is designed to transfer to any Texas public college or university. Upon completion of the Field of Study Curriculum, a certificate will be awarded to acknowledge completion and recognize preparedness to transition from an associate level to a baccalaureate (BA/BS) level, at any Texas public institution. In addition to the Engineering Field of Study, a specific set of four University of Texas at Dallas (UTD) Engineering courses are offered in support of our Collin-UTD Bachelor of Science in Engineering Articulation Agreement. Five areas of Engineering are covered by these courses: Electrical Engineering, Computer Engineering, Telecommunications Engineering, Software Engineering and Mechanical Engineering. |

**PART I: Might not change from year to year**

| A. Outcomes(s)  Results expected in this department/program | B. Measure(s)  The instrument or process used to measure results | C. Target(s) The level of success expected |
| --- | --- | --- |
| 1. The student will demonstrate an understanding of the Engineering Algorithm  and Structural Design by building a Toothpick Bridge and creating an appropriate Engineering Design Laboratory Log. (ENGR 1201 – Introduction to Engineering) | Engineering Algorithm and Structural Design  Rubric for Bridge Project in ENGR 1201 | 70 average rating |
| 2. The student will demonstrate an understanding of how to technically describe  “How Things Work in Engineering” by writing a term paper on exactly how a chosen device or invention works in technical detail.  (ENGR 1201 – Introduction to Engineering) | Rubric for Final Technical Paper in ENGR 1201. | 70 average rating |
| |  | | --- | | 3. The student will demonstrate an understanding of Statics by completing the comprehensive Final Exam.  (ENGR 2301 – Engineering Mechanics I) | | |  | | --- | | Key for Comprehensive Exam in ENGR 2301 | | 70 average rating |
| 4. The student will demonstrate  an understanding of Dynamics by completing the comprehensive Final Exam. (ENGR 2302 – Engineering Mechanics II) | Key for Comprehensive Exam in ENGR 2302. | 70 average rating |

**PART II: For academic year (enter year i.e. 2011-12)**

**From Part I**

| A. Outcomes(s)  Results expected in this department/program | D. Action Plan Years 5 & 2  Based on analysis of previous assessment, create an action plan and include it here in the row of the outcomes(s) it addresses. | E. Implement Action Plan  Years 1 & 3  Implement the action plan and collect data | F. Data Results Summary  Years 2 & 4  Summarize the data collected | G. Findings  Years 2 & 4  What does data say about outcome? |
| --- | --- | --- | --- | --- |
| 1. The student will demonstrate an understanding of the Engineering Algorithm  and Structural Design by building a Toothpick Bridge and creating an appropriate Engineering Design Laboratory Log. (ENGR 1201 – Introduction to Engineering) | 2010-11: Develop an extra design project to provide increase in student application practice.  2012-13:   |  | | --- | | Per meeting minutes,. In order to improve student understanding and performance, it was decided that the second (just prior) toothpick bridge assignment would be a Team (2 or 3 student) Project. Thereby, allowing students to take the knowledge from Bridge #1 and share their intellectual property on the second “Team Project Bridge” prior to building the Final Toothpick Bridge Project. | | Implement the action plan and collect data | 2011-12:   |  | | --- | | 161 out of 176 met std.  Average= 85.5, High= 110, Low= 0 | | 2012: Standard Met  Per meeting minutes, target will be to improve student understanding and performance. |
| 2. The student will demonstrate an understanding of how to technically describe  “How Things Work in Engineering” by writing a term paper on exactly how a chosen device or invention works in technical detail.  (ENGR 1201 – Introduction to Engineering) | 2012-13:   |  | | --- | | Per meeting minutes, Standard met. In order to improve student understanding and performance, it was decided to move up the project due date by 2 weeks. Thereby, a student’s performance would improve based on not having everything due in the 15th and 16th week of the class. | | Implement the action plan and collect data | |  | | --- | | 2012: Technical Research Paper- 153 out of 176 met std.  Average= 81.5, High= 100, Low= 0 | | 2012:Standard Met.  23 students (13%) did not meet the standard of 70%. |
| 3. The student will demonstrate an understanding of Statics by completing the comprehensive Final Exam.  (ENGR 2301 – Engineering Mechanics I) | 2012-13: 13 See Action Plans for Goals 1 & 2. | Implement the action plan and collect data | 2012:  Comprehensive Final Exam- 36 out of 38 met std.  Average= 82.05, High= 100, Low= 72 | 2012: Standard Met; Per meeting minutes, no action is required. |
| 4. The student will demonstrate  an understanding of Dynamics by completing the comprehensive Final Exam. (ENGR 2302 – Engineering Mechanics II) | 2012-13 See Action Plans for Goals 1 & 2. | Implement the action plan and collect data | 2012:  Comprehensive Final Exam- 18 out of 19 met std.  Average= 83.26, High= 98, Low= 65 | 2012:  Per meeting minutes, Standard was met. No Action Required |