CORE ENGINEERING 1
COURSE CODE: 6370
STUDENT PROFILE

STUDENT'S NAME:	**TEACHER'S NAME:**
School Year/Semester:	**Grade:**
Begin Date:	**Date Completed:**

Directions: Document student's progress using the applicable rating scales below: Enter date of completion under the appropriate column.

0 - Has not received instruction in this area / **no experience or knowledge of this task (N/A)**
1 – Can apply and perform **independently (80-100)**
2 – Can perform the task completely with **limited supervision (70-79)**
3 – Requires additional instruction and or **close supervision (60-69)**

A. SAFETY		**0**	**1**	**2**	**3**
1	Review school safety policies and procedures.				
2	Review classroom safety rules and procedures.				
3	Review safety procedures for using equipment in the classroom.				
4	Identify major causes of work-related accidents in office environments.				
5	Demonstrate safety skills in an office/work environment.				
B. STUDENT ORGANIZATIONS		**0**	**1**	**2**	**3**
1	Identify the purpose and goals of a Career and Technology Student Organization (CTSO).				
2	Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.				
3	Explain the benefits and responsibilities of being a member of a CTSO.				
4	List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.				
5	Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.				
C. TECHNOLOGY KNOWLEDGE		**0**	**1**	**2**	**3**
1	Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation				
2	Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.				
3	Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.				

4	Explain the consequences of social, illegal, and unethical uses of technology (e.g., cyber bullying; piracy; illegal downloading; cyberbullying; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).				
5	Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, Creative Commons, documents, video, sounds, music, trademarks, and other elements for personal use.				
6	Describe ethical and legal practices of safeguarding the confidentiality of business-related information.				
7	Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.				
D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS		**0**	**1**	**2**	**3**
1	Demonstrate punctuality.				
2	Demonstrate critical thinking and problem-solving skills				
3	Demonstrate initiative and self-direction.				
4	Demonstrate integrity.				
5	Demonstrate work ethic.				
6	Demonstrate conflict resolution skills.				
7	Demonstrate listening and speaking skills.				
8	Demonstrate respect for diversity.				
9	Demonstrate customer service orientation.				
10	Demonstrate teamwork.				
E. PROFESSIONAL KNOWLEDGE		**0**	**1**	**2**	**3**
1	Demonstrate global or “big picture” thinking.				
2	Demonstrate career and life management skills and goal-making.				
3	Demonstrate continuous learning and adaptability skills to changing job requirements.				
4	Demonstrate time and resource management skills.				
5	Demonstrates information literacy skills.				
6	Demonstrates information security skills.				
7	Demonstrates information technology skills.				
8	Demonstrates knowledge and use of job-specific tools and technologies.				
9	Demonstrate job-specific mathematics skills.				
10	Demonstrates professionalism in the workplace.				
11	Demonstrates reading and writing skills.				
12	Demonstrates workplace safety.				

F. ENGINEERING DESIGN PROCESS		0	1	2	3
1	Compare and contrast various design processes.				
2	Identify, plan, and apply a design process.				
3	Analyze various planning tools (e.g., GANTT charts, timelines.)				
4	Demonstrate effective leadership and teamwork methodologies.				
5	Utilize problem-solving methods within the design process to solve real-world problems.				
6	Evaluate design solutions based on implications to society and the environment.				
G. ENGINEERING COMMUNICATION		**0**	**1**	**2**	**3**
1	Employ standard engineering documentation protocol such as engineering notebooks and/or portfolios.				
2	Generate technical reports utilizing a standard format (MLA/APA).				
3	Demonstrate effective presentation skills to communicate design solutions.				
H. ENGINEERING TECHNICAL DRAWING		**0**	**1**	**2**	**3**
1	Analyze and create freehand sketches of 2D and 3D objects.				
2	Create simple isometric drawings.				
3	Create 2-dimensional orthographic, multi-view drawings, properly labeled.				
4	Apply scale, dimensioning, and tolerance standards to drawings.				
I. ENGINEERING DISCIPLINES		**0**	**1**	**2**	**3**
1	Explore and differentiate among the various engineering disciplines.				
2	Evaluate the impact of engineering on society throughout history.				
J. DESIGN AND MODELING		**0**	**1**	**2**	**3**
1	Create and edit models using 3D CAD software.				
2	Prepare and produce technical drawings using ANSI and/or ISO standards.				
3	Extract and interpret physical properties of a solid model from CAD software.				
K. ENGINEERING COMPUTATIONS		**0**	**1**	**2**	**3**
1	Demonstrate proper use of engineering measurement tools with precision.				
2	Convert between US Customary and SI units.				
3	Calculate physical properties of geometric shapes and solids.				
4	Calculate central tendencies and descriptive statistics including standard deviation and empirical rule.				

L. REVERSE ENGINEERING (OPTIONAL)		0	1	2	3
1	Identify mechanical fasteners and corresponding tools.				
2	Identify inputs, outputs, and possible processes of the system.				
3	Perform a tear-down, cataloguing, and identification of a manufactured product and its parts.				