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| Career Technical Education (CTE) Program of Study for Entry into 4-Year University | | | | | | | | | | | | | | | | | | | |
|  | | | **Name:** | | | | | | **ID:** | | **Gr:** | | | | **Department:** Engineering and Technology | | | | |
| **Industry Sector:**  Engineering and Design | | **Career Pathway:** Engineering Design, Engineering Technology, Architectural, Computer Hardware, Electrical and Network Engineering | | | | | | | | | | | **Student Organization or Club:**  Engineering and ACME Club | | | |
| **Recommended High School Course Schedule** | | | | | | | | | | | | | | | | | | | |
| ***Level*** | ***Grade*** | ***English*** | | ***Social Studies*** | | ***Math*** | | ***Science*** | | | | ***Other Required Courses, Electives, CTE*** | ***Other Required Courses, Electives, CTE*** | | | | | ***Work-Based***  ***Learning Activities*** | |
| Secondary | 9 | English 1 or  English 1 Pre-AP | | Geography &  Health & Wellness | | Geometry | | Biology | | | | Physical Ed 1 | Introduction to Engineering\*\* Plus  \*\*Computer Applications | | | | | * Engineering Club | |
| 10 | English 2 or  English 2 Pre-AP | | World History or  World History Adv. | | Algebra 2 Trigonometry | | Chemistry | | | | Physical Ed 2 | \*\*Principles of Engineering | | | | | * Engineering Club * ROP Industry Day | |
| 11 | English 3 or  AP English  Lang/Comp | | US History or  AP US History | | Pre-Calculus or probability and Statistics | | Physics | | | | Foreign Language I | Select One:  Digital Electronics or Computer Integrated Manufacturing | | | | | * Engineering Club | |
| 12 | English 4 or  AP English Literature | | Government & Economics or AP US Govern. & Politics | | AP Calculus or  AP Statistics | | **Fine Art**  Art I or  \*\* Computer Graphics I | | | | **Select Foreign Language II and 1 Period from:**  Engineering Design Development, or \*\*\*Internships in Agriculture (2 Periods), \*\*Beginning Drafting | | | | | | * Engineering Club * ROP Community   Classroom/Portfolio Day   * Senior Exit Interviews | |
| Postsecondary | **Articulated Courses: Student earns Merced College units of credit for the identified college course when student passes the ACE (Articulated Credit by Exam)** | | | | | | | | | | | | | | | | | | |
| MUHSD/ROP | | | | | | | | | MERCED COLLEGE | | | | | | | | | UNITS |
| Computer Applications I | | | | | | | | | AOM 50B: Document Formatting and Keyboarding | | | | | | | | | 3 |
| Internships In Agriculture (2 periods) | | | | | | | | | Co-op 41A: Cooperative Education | | | | | | | | | 3 |
| Computer Graphics I | | | | | | | | | ART 40A: Introduction to Digital Media | | | | | | | | | 3 |
| Introduction Engineering Design | | | | | | | | | DRFT 04C:L Introduction to Parametric Modeling | | | | | | | | | 3 |
| Principles of Engineering | | | | | | | | | ENGR 30: Introduction to Engineering | | | | | | | | | 2 |
| Beginning Drafting | | | | | | | | | DRFT 04A: Fundamentals of Computer-Aided Drafting | | | | | | | | | 3 |
| ***\*ROP Certificate Earned at Completion of Course \*\*Merced College credit earned through articulation \*\*\*ROP & Articulation*** | | | | | | | | | | | | | | | | | | | |
| Merced Community College Coursework Related to the Pathway | | | | | | | | | | | | | | Sample Occupations Related to the Pathway | | | | | |
| Degrees & Certificates | | | | | | | Other Courses for Engineering Degree | | | | | | | AA or AS Degree or Certificate | | | BS or BA Degree | | |
| **Degrees:** A.S. or A.S. Engineering, A.S. Engineering Tech, A.A. CAD Draftsman Architectural or Mechanical, A.A. Computer & Networking Tech, A.A. Electronics Tech, A.A. Industrial Electronics Tech, A.A. Instrumentation & Process Control Tech  **Certificates:** Several in Engineering, Drafting, Electronics | | | | | | | ENGR 05: Engineering Graphics  ENGR 10: Engineering Materials  ENGR 18: Electrical Circuits Analysis  ENGR 25: Descriptive Geometry  ELCT 32: Semiconductors & Integrated Circuits  DRFT 10: Rendering and Animation | | | | | | | Drafter/Designer  Engineering Technician  CAD/CAM Specialist  Journeyman Engineer  Surveyor  Industrial Designer  Estimator | | | Architect  Civil Engineer  Mechanical Engineer  Architectrual Engineer  Structural Engineer  Computer Engineer  Software Engineer  Electrical Engineer | | |

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