

# Monterey Trail High School

Xovtooj: (916) 688-0050

<http://mths.egusd.net/data>

## Design and Technology Academy (DATA)

Txoj kev kawm Design thiab Technology Academy (DATA) yog ib txoj kev kawm plaub xyos uas kawm ceev thiab tob thiab yog tsim los qhia, muab kev qhia, thiab pabcuam txog kev kawm phab Engineering, Computer Science, hab Environmental Architecture. Thoob plaws cov menyuam lub neej kawm high school, cov xibfwb qhia DATA yuav mob siab qhia mus rau peb lub homphiaj: lus txhawb cov menyuam txoj kev xav kawm thiab kev mob siab rau txoj kev kawm los ntawm kev pab kom lawv muaj ib cov homphiaj yuav kawm mus rau; los txhimkho kom cov menyuam muaj kev txuas siab rau lub tsev kawm ntawv los ntawm cov chaw uas lawv kawm thiab tau mus xyaum ua haujlwm; thiab los npaj cov menyuam kom muaj ntawv ua povthawj tias txawj txog tej yam dabtsi lawm thaum lawv nkag mus ua huajlwm thiab/lossis npaj txhij yuav mus kawm qebsiab.

Cov menyuam yuav los kawm tau ib lossis ntau dua yam hauv qab nuav lug ua puab yam kev kawm loj:

### Cov Hoob DATA Academy Uas Yuavtsum Tau Kawm

#### Engineering

Cov menyuam yuav los xyaum ua ntawm tes kiag txog ntau yam hauv txoj kev kawm engineering. Dua li, cov menyuam tseem yuav kawm txog ntau qhov technology sectors xws li kev tsim khoom siv, tsim vajtsev, tsim power thiab energy, kev sib txuas lus, thiab kev thauj mus los. Yuav muab cov menyuam faib ua tej pab los xav txog, teeb qauv, tsim thiab muab tus qauv uas lawv tsim tau ntawd los qhia rau sawvdaws. Thaum los tsim, cov menyuam yuav siv ntau txoj kev los tsim thiab kawm txog ntau yam technologies thiab tswvyim xws li xuas tes tsim thiab siv tshuab CNC los tsim, siv Arc thiab MIG welding, siv CNC plasma cutting, robotics, electronics, pneumatics thiab mechanical systems. Cov menyuam yuav thov tau mus kawm hauv CSUS txoj kev kawm ACE Program uas siv cov qhab-nees no ua engineering credit.

**Industry Sector:** Engineering and Design  
**Pathway:** Engineering Design and Technology

Grade	Academic 1	Academic 2	Academic 3	CTE	Advocacy
9	Mathematics I	English 9	General Science	Computer Technology/ Computers Intermediate	Yes
10	Mathematics II	English 10	Biology	Exploring Technology	Yes
11	Mathematics III (or Algebra II)	English 11	US History/ Chemistry	Computer-Assisted Design/Drafting (CADD)	Yes
12	American Government	English 12	Economics	Engineering A	Yes

MONTEREY TRAIL HIGH SCHOOL

**Design and Technology Academy (DATA) (txuas ntxiv)**

**Computer Science**

Cov menyuam yuav kawm txog ntau yam hauv computer science xws li web page design, computer maintenance thiab upgrading, computer troubleshooting, computer programming, graphics thiab animation, network configuration thiab administration. Yuav tau txais ntau ua povhawj tias txawj txug A+ hab I-Net.

**Industry Sector:** Information and Communication Technology

**Pathway:** Network Communications. Programming and System Development

Grade	Academic 1	Academic 2	Academic 3	CTE	Advocacy
9	Mathematics I	English 9	General Science	Computer Technology and Intermediate Computers	Yes
10	Mathematics II	English 10	Biology	Computer Mathematics/Basic Programming	Yes
11	Mathematics III (or Algebra II)	English 11	Chemistry	Computer Science A	Yes
12		English 12	Economics	Web Design and Development	Yes

**Environmental Architecture**

Cov menyuam yuav kawm txog architectural design thiab drafting uas feem ntau yog hais txog qhov uas tej tibneeg hauv tej zejzov ua rau tej dej thiab fuabcua tsis zoo uas siv cov kev kawm hauv science, social science, thiab technology. Puab yuav los tshuaj txog cov teebmeem nyob yus lub tebchaws thiab cov uas muaj nyob thooob qabntuj thiab los nrhiav cov kev daws cov teebmeem ntawd. Cov menyuam lawv txoj kev txawj los tsim ib lub qauv model uas zoo rau cov tsev hauv tej zejzov (eco-friendly). Cov menyuam yuav thov tau mus kawm hauv CSUS txoj kev kawm ACE Program uas siv cov qhab-nees no ua engineering credit.

*Cov menyuam uas kawm txoj kev kawm no yuavtsum tau kawm kuas tag cov hoob uas hais hauv txoj Career Technical Education Courses li hauv qab ov nrog rau cov kev kawm loj uas lawv yuav tau kawm (xws li, Aaskiv, lej, science, social science, etc.) nrog uake (as one cohort).*

**Industry Sector:** Engineering and Architecture

**Pathway:** Architecture Design

Grade	Academic 1	Academic 2	Academic 3	CTE	Advocacy
9	Mathematics I	English 9	General Science	Computer Technology and Intermediate Computers	Yes
10	Mathematics II	English 10	Biology	Computer-Assisted Design & Drafting (CADD)	Yes
11	Mathematics III (or Algebra II)	English 11	Chemistry	Ecology	Yes
12		English 12	Economics	Environmental Architecture	Yes

MONTEREY TRAIL HIGH SCHOOL  
**Design and Technology Academy (DATA) (txuas ntxiv)**

Cov hoob CTE uas yuavtsum tau kawm rau txuj kev kawm no teev rau hauv qab no.

Hoob Kawm	Leejtwg thiaj kawm tau hoob no	Credits	Kev Qhia Txog
<b>DATA Computer Technology</b>  <p style="text-align: right;"><b>Course #12111</b></p>	Freshman	5	<p>Hoob no yog kawm txog computer technologies thiab siv los pab kom muaj kev kawm nceqib. Cov menyuum kawm ntawv yuav los kawm txog kev siv daim keyboard, kev sau ntawv, cov kev siv computer, spreadsheets, database, kev siv technologies los nrhiav ntaub ntawv hauv library, thiab kev tuaj deb nrog lwm tus sib txuas lus. Cov menyuum kawm ntawv yuav siv tej uas lawv kawm tau hauv hoob no los ua lawv cov ntawv (assignments) hauv lwm hoob uas kawv kawm rau xyoo ntawd, uas siv computer mus nrhiav kev qhia, npaj lawv cov ntawv, daws teebmeem, thiab ceev kev qhia. Hoob no suav tau ua ib hoob Technology hauv kev kawm kom tiav. Cov menyuum kawm ntawv hauv Monterey Trail High School suav tau ua computer science credit hauv txoj kev kawm ACE Program rau kev nkag mus kawm CSUS.</p> <p><b>Cov ntaub ntawv uas siv:</b> <i>Century 21 Computer Applications &amp; Keyboarding, South Western</i></p>
<b>DATA Computers, Intermediate</b>  <p style="text-align: right;"><b>Course #12131</b></p>	Freshman Sophomore Junior Senior	5	<p>Hoob no muab sijhawm ntxiv rau cov menyuum kawm ntawv los xyaum siv computer. Cov menyuum kawm ntawv yuav kawm txog kev sau program, kev siv kev sau ntawv qibsiab, kev luam ntawv (publishing) uas suav multimedia thiab lwm yam.</p> <p><b>Cov ntaub ntawv uas siv:</b> <i>Microcomputer Applications for Business, South Western</i></p>
<b>DATA Computer Mathematics/Basic Programming</b>  <p>“a-g”/ “g” approved</p> <p style="text-align: right;"><b>Course #3062</b></p>	Sophomore Junior Senior	10	<p>Hoob no yog qhia txog kev sau programming rau computer uas siv rau lej, science, kev lagluam, social studies, economics, thiab ecology. Tus menyuum kawm ntawv yuav kawm txog flow-charting, ttej yam ntawm cov computers khiav thiab siv lidas, thiab cov cwj input-output los nrog cov computers sib txuas lus. Hoob no suav tau ua ib hoob lej rau xyoo kawm plaub (senior) hauv kev kawm kom tiav.</p> <p><i>Yam yuavtsum tau kawm uantej: Mathematics I (or Algebra I) thiab tau qab-nees “C” los siab dua.</i></p> <p><b>Cov ntaub ntawv uas siv:</b> No textbook assigned.</p>
<b>DATA Computer Science A, Introduction to</b>  <p style="text-align: right;"><b>Course #12112</b></p>	Sophomore Junior Senior	10	<p>Hoob muaj cev tes ua num no yuav pab cov tub ntxhais hluas npaj rau cov haujlwm Computer Science. Lawv yuav kawm txog cov khoom tuaj nrog lub computer, daws teeb meem uas tshwm sim, thiab kho cov khoom siv. Lwm yam yuav kawm yog tshawb xyuas computers, kho kom zoo zog tuaj, thiab dhos/txuas network configuration. Cov tub ntxhais kawm nyob hauv Monterey Trail High School apply mus rau CSUS los ntawm ACE Program rau kev uas yuav muab cov credit nyaib mus rau computer science credit.</p> <p><b>Cov ntaub ntawv uas siv:</b> Tsis muaj.</p>

MONTEREY TRAIL HIGH SCHOOL

**Design and Technology Academy (DATA) (txuas ntxiv)**

Hoob Kawm	Leejtwg thiaj kawm tau hoob no	Credits	Kev Qhia Txog
<p><b>DATA Web Design and Development</b></p> <p>Course #12138</p>	Senior	5 5	<p>Hoob no qhia txog keebkwm, ntau yam kev sau programming, kev tsim, thiab cov kev siv technology tshiab uas luag siv los tsim cov Web pages kom zoo nkauj. Cov menyuum kawm ntawv yuav siv Internet los tshawb nrhiav txog Web pages thiab ntau yam duab, uas siv electronic media los tsim. Dua li, yuav siv cov lus HTML/Java programming thiab cov software tsim duab nrog rau cov tswvyim tsim thiab lo duab los tsim kom tau ib cov Web pages uas zoo nkauj thiab zoo siv hauv Internet.</p> <p><b>Cov ntaub ntawv uas siv:</b> <i>Microsoft Front Page 98, Course Technology</i></p>
<p><b>DATA Exploring Technology A/B</b></p> <p>Cosumnes Oaks High Florin High Franklin High Laguna Creek High Monterey Trail High</p> <p>Course #12350</p>	Tsis muaj kev txwv	5 5	<p>Hoob no yuav muab sijhawm rau cov menyuum kawm ntawv los kawm txog kev siv CADD/CAMM/CNC los txiav thiab txhuam, ua kom hlais cua (aerodynamics), tsim duab tso TV/Video, tej cav me (small engine), tsheb thauj mus los, yas, tshuab khiav, electronics, biotechnology, kev tshawb nrhiav (research) thiab kev tsim qauv (design), robotics, txua ntoo, thiab lwm yam ntxiv. Lub hoob no yuav muab sijhawm rau cov menyuum kawm ntawv los tshuaj txog ntau yam technologies tshiab nrog rau cov haujlwm uas uas siv tej khoom ntawd. Yuavtsum tau kawm Exploring Technology 9 tas tso mam mus kawm tau Exploring Technology 10. Cov menyuum kawm ntawv yuavtsum tau xeem kom dhau txoj kev cobphum hauv thawj 5 hnub thiaj kawm mus ntxiv tau. Tomqab qhia thawj 5 hnub tas lawm yuav tsis pub neeg nkag los ntxiv lawm. Rov kawm hoob no dua yuav credit tau.</p> <p><i>Yam yuavtsum tau kawm uantej: Tau qhab-nees "C" los siab dua hauv Exploring Technology A thiaj kawm tau Exploring Technology B.</i></p> <p><b>Cov ntaub ntawv uas siv:</b> <i>Technology Today &amp; Tomorrow, Glencoe</i></p>
<p><b>DATA Computer Aided Design/Drafting (CADD)</b></p> <p>Course #12100</p>	Junior	10	<p>Hoob no muaj kev qhia txog tej yam yooj yim ntawm kev siv Autodesk design thiab cov drafting software los tsim tus qauv duab design drafting. Nws rov qab saib txog cov kev cai tswj kev tsim tus qauv design nrog rau kev teeb duab mechanical drafting, yam tseem ceeb ntawm geometric construction, kev tsom kom pom ob peb qho multi-view projections, yam yooj yim ntawm dimensioning, thiab text. Tsis tas li ntawd, yuav rov saib txog kev saibxyuas tej haujlwm (file management), lub Cartesian coordinate system, kev npaj teeb duab, tej khoom siv pab teeb duab, tej txheem, kho dua tshiab, thiab arrays. Cov tub ntxhais hluas yuav tsum teeb ib cov duab ntau ntau hauv lub computer, qhia tias nws to taub txog yam tau kawm. Hoob no qhia txog ob yam kev teeb duab 2D thiab 3D tib si. Lub project ua los xaus hoob kawm yuav tsum teeb cov design uas siv ob peb yam tswvyim (multi-component solid model) xws li kev teeb duab zuj zus mus, qhia meej, thiab ib daim duab tawg loj (exploded view) uas siv ntau yam khoom los tsim. Cov tub ntxhais hluas nyob qeb 12 uas kawm hoob CADD muaj feem thov txais credit rau kev ua lej. Lawv cuv npe mus kawm tsev kawm ntawv qeb siab CSUS los ntawm lub ACE Program vim muaj cov engineering credit uas transfer tau.</p> <p><b>Cov ntaub ntawv uas siv:</b> <i>Applying Auto-Cad, Glencoe</i></p>

MONTEREY TRAIL HIGH SCHOOL

**Design and Technology Academy (DATA) (txuas ntxiv)**

Hoob Kawm	Leejtwg thiaj kawm tau hoob no	Credits	Kev Qhia Txog
<p><b>DATA Environmental Architecture</b></p> <p><b>Course # 16115</b></p>	<p>Senior</p>	<p>10</p>	<p>Hoob no pib qhia cov tub ntxhais hluas txog kev tsim tus qauv puab vaj tse (architectural design thiab drafting) thiab yuav tham txog kev puas tsuaj rau tej roob hauv pes thiab tej chaw uas muaj tsiaj vim kev puab tsev. Yuav tham txog ntau yam ntawm kev tsim puab tsev, xws li txog tus qauv tsev, daim av, lub homphiaj, lub sijhawm ua haujlwm, kev txuas/taws fais fab, kev tso dej/kav dej, kev rub cov hoob, chaw siab/qes, kev puab thiab faib phab ntsa, kev kho phab ntsa thiab qab nthab, lub hauv paus tsev/tus cag thiab chaw rau taw, tus design qhov rooj thiab qhov rais, ntaiv, chaw cub, yuav tsum muaj cov qauv duab los tham/saib txog, muaj kev taws cua sov/cua txias, tus qauv passive solar design, ib thooj solar slab, ib lub climate control systems los saibxyuas huab cua, xeriscape landscaping thiab topography, tsis tas li ntawd, yuav tsum muaj cov khoom siv appliances nyob rau daim design process tib si. Hoob no npaj rau cov tub ntxhais hluas uas muaj siab yuav mus kawm tej haujlwm nyob rau architecture thiab architectural engineering. Cov tub ntxhais kawm qeb 12 pauv tau hoob no kom tau credit ua lej tib si.</p> <p><i>Hoob yuav tsum tau kawm ua ntej: Computer Aided Design/Drafting (CADD) los yog muaj kev pom zoo los ntawm tus xibfwb.</i></p> <p><b>Cov ntaub ntawv uas siv:</b> <i>Residential Design Using Revit Architecture 2009, SDC</i></p>
<p><b>DATA Engineering A</b></p> <p><b>Course #12340</b></p>	<p>Junior Senior</p>	<p>10</p>	<p>Hoob no tsim rau cov tub/ntxhais hluas uas xav koom tes xyaum tej haujlwm muaj nyob rau cov haujlwm tsim tus qauv ua tshuab, ua vaj tse, ua kev, nrog rau lwm yam ntau heev (engineering fields). Lub sijhawm no, lawv yuav kawm txog kev kawm ntawv qeb siab ntawm ib tug kws engineer, cov txuj ci los yog kev txawj uas yuav tsum muaj, nrog rau lub luag haujlwm thiab tej num cov kws engineers yuav tau saibxyuas. Txuas ntxiv, cov tub/ntxhais hluas yuav tau ua ib cov projects uas nyuaj tiam si lom zem, lawv thiaj kawm txog Newton's Laws of Motion (txoj kev cai ua zog), uas yog lub hauv paus ntawm engineering. Lwm yam projects uas muaj txuas rau kev kho tshuab hlau (mechanical engineering), yam uas siv hluav taws xob (electronic engineering), yam tsa/teeb (structural engineering) thiab nrog rau hluav taws xob (electrical engineering). Cov tub ntxhais hluas yuav tsum xav txog txoj kev tsim tus qauv, pib ntawm lub hauv paus mus rau lub ntsis lub caij yuav tsim nws tus qauv, kho/pauv, ua kom tau tus qauv, thiab thaum sim tus qauv saib nws puas tau zoo txaus raws li tus qauv ntsuas. Cov tub ntxhais hluas kawm hauv Monterey Trail High School muaj feem cuv npe rau CSUS los ntawm lub ACE Program yog xav transfer nws cov engineering credit.</p> <p><i>Hoob yuav tsum tau kawm ua ntej: Exploring Technology los yog muaj kev pom zoo los ntawm tus xibfwb.</i></p> <p><b>Cov ntaub ntawv uas siv:</b> Tsis muaj.</p>

MONTEREY TRAIL HIGH SCHOOL

**Design and Technology Academy (DATA) (txuas ntxiv)**

Hoob Kawm	Leejtwg thiaj kawm tau hoob no	Credits	Kev Qhia Txog
<p><b>DATA Ecology</b>                      "a-g"/ "g" approved                      NCAA approved</p> <p><b>Course #4630</b></p>	<p>Junior                      Senior</p>	<p>10</p>	<p>Hoob no yog tsim los ua kiag ntawm tus kheej (first-hand laboratory experience) kom tau pom thiaj ua nrog cov kab lossis tsiaj (organisms) hauv lawv lub chaw nyob. Cov menyuam kawm ntawv yuavtsum txaus siab thiaj kam ua tej yam uas tau xuas tes ua. Yuav los kawm txog tej zaubmov (food webs) thiaj zaubmov ua rau muaj zog (food energy), tej nrotsuag thiaj tsiaj, hauv ib thaj chaw lossis ib lub chaw nyob, thiaj kawm txog tibneeg kev noj nyob. Cov menyuam kawm ntawv tseem yuav los kawm txog txoj kev noj nyob hauv lub cheebtsam Sacramento. Cov menyuam kawm ntawv yuav tau ua tej projects thiaj tej yam uas luag kom nws coj mus ua ntev hnuv. Homework yog nyeem ntawv, sau txog cov kev ua (lab reports), sau term papers, thiaj ib qhov research project. Cov menyuam kawm ntawv yuav muaj sijhawm mus kawm txog FFA, mus xyaum ua, xyaum kev Cog Qoob Loo (Agriculture Business). Hoob no suav tau rau life science rau kev kawm ntawv tiav.</p> <p><i>Yam yuavtsum tau kawm uantej: Kawm tas Biology thiaj tau qhab-nees "C" lossis siab dua.</i></p> <p><b>Cov ntaub ntawv uas siv:</b> <i>Environmental Science, McGraw-Hill</i></p>

Cov hoob tuamyem kawm uas tus menyuam kawm hauv txoj kev kawm DATA Academy yuav kawm tau yog:

- **Engineering B** (Cov menyuam uas kawm txoj kev kawm Engineering uas kawm dhau Engineering A hauv xyoo Junior uas tau "C" rov sau raug nquahu kom kawm hoob Engineering B. Txawm le ntawd los, hoob no tsi yog ib hoob uas yuavtsum tau kawm thiaj li suav tias kawm tiav.)

**Yog xav paub meej txog cov hoob kawm (academic courses) thiaj cov hoob tuamyem kawm uas hais sau no, mus saib Section 1.**

**Thov hu mus rau lub tsev kawm ntawv yog koj xav tau kev qhia ntxiv.**