DEN@Viterbi
MORK FAMILY DEPARTMENT ORIENTATION
Academic Info

Andy S. Chen, Director, MFD Student Affairs

Idania Takimoto, Student Services Advisor

AGENDA

- Welcome to DEN@Viterbi & USC
- Important Dates & Deadlines
- Degree Requirements
- Mork Family Dept. Policies, Procedures, Tips
- Advisement: DEN D-clearance
- DEN Contact Information
- Getting connected
- Q & A

Welcome to DEN@Viterbi and USC

CHE & MASC/MTE MS Students and all PhD Students

Andy Chen, Director, MFD Student Affairs

Phone 213-740-6011
Email andysche@usc.edu

PTE MS Students

Idania Takimoto, PTE Student Services Advisor

Phone 213-740-0322
Email takimoto@usc.edu

Faculty Advisors

Chemical Engineering

Dr. Katherine Shing

Email shing@usc.edu

Materials Science

Dr. Ed Goo

Email ekgoo@usc.edu

Petroleum Engineering

Dr. Iraj Ershaghi

Email ershaghi@usc.edu

UNIVERSITY CALENDAR – fall 2017

Mar 27- Aug 19	Registration for spring semester continues
Aug 18	Last day to register and settle without late fee
Aug 21	Fall semester classes begin
Sept 4	Labor Day, university holiday
Sept 8	Last day to drop a class without a mark of “W,” except for Monday-only classes, and receive a refund
Oct 6	Last day to change enrollment option to Pass/No Pass or Audit

UNIVERSITY CALENDAR – fall 2017 cont.

Oct 6	Last day to drop a course without a mark of "W" on the transcript ***Please drop any course by the end of week three for session 001 (or the 20 percent mark of the session in which the course is offered) to avoid tuition charges.**
Nov 10	Last day to drop a class with a mark of W
Nov 22-26	Thanksgiving Recess
Dec 1	Fall Semester Classes End
Dec 2-5	Study days
Dec 6-13	Final examinations
Dec 14-Jan 7	Winter Recess

PROGRAM REVIEW

- Master of Science in Chemical Engineering
- Master of Science in Materials Engineering
- Master of Science in Materials Science (Not Available on DEN)
- Master of Science in Petroleum Engineering
- Master of Science in Petroleum Engineering Smart Oilfield Technologies
- Master of Science in Petroleum Engineering Geoscience Technologies
- Master of Science in Petroleum Engineering/Engineering Management

Master of Science in Chemical Engineering

Requirements for Graduation 28 units total with 3.0 GPA overall (deficiency courses may be required for students without a CHE background):

Seminar Requirement:

1 unit of ChE 550ab or ChE 590 (for DEN students).

The nine courses are divided into 3 Groups:

Group I: <u>Required</u> Core:

12-units total
4 required core courses, all students must take:
ChE 501 Modeling and Analysis of Chemical Engineering Systems (Fall Semester)
ChE 530 Thermodynamics for Chemical Engineers (Fall Semester)
ChE 540 Viscous Flow (Fall Semester)
ChE 542 Chemical Engineering Kinetics (Spring Semester)

Group II: <u>Elective</u> Core:

6-units
Choose 2 courses from:
ChE 541 Mass Transfer (Spring Semester)
ChE 544 Heat Transfer (Spring Semester)
ChE 599 Process Data Analytics and Machine Learning (Spring Semester)
ChE 502 Numerical Methods for Diffusive and Convective Transport*
ChE 560 Advanced Separation and Bioseperation Processes*
ChE 554 Principles of Tissue Engineering*

Master of Science in Chemical Engineering (cont.)

Group III: Electives

9-units
Choose from:
ChE 510 Energy and Process Efficiency
ChE/AME 513 Principles and Process Efficiency
ChE/MASC 523 Principles of Electrochemical Engineering*
ChE/PTE 531 Enhanced Oil recovery
ChE 532 Vapor-Liquid Equilibria*
ChE 572 Advanced Topics in Polymer Kinetics & Rheology*
ChE/PTE 582 Fluid Flow and Transport Processes in Porous Media
ChE 590 (Directed Research, 1 - 3 units, approval of research advisor required before registering)

Please note that Graduate Students Cannot Count More than 9 units of 400 Level Courses towards Their MS Degree

ChE 450 Sustainable Energy
ChE 472 Polymer Science & Engineering
ChE 474L Polymer Science Engineering Laboratory*
ChE 475 Physical Properties of Polymers
ChE 477 Computer Assisted Polymer Engineering and Manufacturing I*
ChE 486 Design of Environmentally Benign Process Design*
ChE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes
ChE 489 Biochemical Engineering
ChE 499 Chemical Process Safety
Approved 400-level or above courses in Math, Science & Engineering.

Note: **Courses marked with * are not offered on regular schedule.**

Master of Science in Materials Engineering

Requirements for Graduation 27 units total with 3.0 GPA overall:

Core Courses: 18 units
A minimum of 18 units must be graduate courses in Materials Science.

Electives:
The remaining 9 units may be graduate courses outside of Materials Science with departmental approval.

https://chems.usc.edu/academics/graduate-programs/materials-science/

Master of Science in Materials Engineering Core Courses

MASC 501 Solid State
MASC 502 Advanced Solid State
MASC 503 Thermodynamics of Materials
MASC 504 Diffusion and Phase Equilibria
MASC 505 Crystals and Anisotropy
MASC 506 Semiconductor Physics
MASC 511 Materials Preparation
MASC 514L Processing of Advanced Semiconductor Devices
MASC 523 Principles of Electrochemical Engineering
MASC 524 Techniques and Mechanisms in Electrochemistry
MASC 534 Materials Characterization
MASC 535L Transmission Electron Microscopy
MASC 539 Engineering Quantum Mechanics
MASC 548 Rheology of Liquids and Solids
MASC 551 Mechanical Behavior of Engineering Materials
MASC 559 Creep
MASC 560 Fatigue and Fracture
MASC 561 Dislocation Theory and Applications
MASC 570 Introduction to Photovoltaic Solar Energy Conversion
MASC 575 Basics of Atomistic Simulation of Materials
MASC 576 Molecular Dynamics Simulations of Materials and Processes
MASC 583 Materials Selection
MASC 584 Fracture Mechanics and Mechanisms
MASC 599 Special Topics
MASC 601 Advanced Semiconductor Device Physics
MASC 606 Nonequilibrium Processes in Semiconductors
MASC 610 Molecular Beam Epitaxy

List of Approved MASC/MTE Electives

AME 503 Advanced Mechanical Design
AME 509 Applied Elasticity
AME 525 Engineering Analysis
AME 526 Engineering Analytical Methods
AME 577 Survey of Energy and Power for a Sustainable Future
AME 578 Modern Alternative Energy Conversion Devices
AME 588 Materials Selection
ASTE 557 Spacecraft Structural Strength and Materials
BME 410 Introduction to Biomaterials and Tissue Engineering
CE 507 Mechanics of Solids I
CE 529ab Finite Element Analysis
CE 546 Structural Mechanics of Composite Materials
CHE 475 Physical Properties of Polymers
CHE 501 Modeling and Analysis of Chemical Engineering Systems
CHEM 463L Chemical Nanotechnology Laboratory
EE 480 Introduction to Nanoscience and Nanotechnology
EE 504L Solid State Processing and Integrated Circuits Laboratory
EE 507 Micro and Nano-Fabrication Technology
EE 508 Nano-Fabrication Lithography
EE 513 Solid State Energy Devices
EE 529 Optics
EE 531 Non-linear Optics
EE 537 Modern Solid-State Devices
EE 540 Introduction ot Quantum Electronics
EE 601 Semiconductor Devices
EE 606 Nonequlibrium Processes in Semiconductor
EE 607 Microelectromechanical Systems
EE 612 Science and Practice of Nanotechnology
ENE 505 Energy and the Environment
ISE 515 Engineering Project Management
ISE 525 Design of Experiments
PTE 545 Corrosion Control in Petroleum Production

Master of Science in Petroleum

Requirements for Graduation 27 units total for Petroleum Engineering with 3.0 GPA overall (15 additional units min. of deficiency courses are required for students without a B.S. in Petroleum Engineering):

Core Courses: 18 units
PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs
PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes
PTE 517 Testing of Wells and Aquifers
PTE 531 Enhanced Oil Recovery
PTE 555 Well Completion, Stimulation, and Damage Control
PTE 582 Fluid Flow and Transport Processes in Porous Media

Electives (9 units for MS PTE):
502, 503, 504, 505, 506, 511, 512, 514,515, 519, 542, 545, 572, 574, 578, 581, 586, 587, 588, 589 and 590

Deficiency Courses (required for Non-BS PTE students)
411, 412, 461, 466, 500

http://catalogue.usc.edu/schools/engineering/petroleum-engineering/courses/

Master of Science in Petroleum Engineering (Smart Oilfield Technologies)

Requirements for Graduation 34 units total with 3.0 GPA overall (15 additional units min. of deficiency courses are required for students without a B.S. in Petroleum Engineering) :

Core Courses: 30 units
PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs
PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes
PTE 517 Testing of Wells and Aquifers
PTE 531 Enhanced Oil Recovery
PTE 555 Well Completion, Stimulation, and Damage Control
PTE 582 Fluid Flow and Transport Processes in Porous Media
PTE 586 Intelligent and Collaborative Oilfield Systems Characterization and Management
PTE 587 Smart Completions, Oilfield Sensors and Sensor Technology
PTE 588 Smart Oilfield Data Mining
PTE 589 - Advanced Oilfield Operations with Remote Immersive Visualization and Control

Electives (4 units):
PTE 500, 502, 503, 504, 505, 506, 511, 512, 514, 515, 519, 542, 545, 572, 574, 578, 581, 590

Deficiency Courses (required for Non-BS PTE students)
411, 412, 461, 466, 500

Master of Science in Petroleum Engineering (Geoscience Technologies)

Requirements for Graduation 34 units total with 3.0 GPA overall (15 additional units min. of deficiency courses are required for students without a B.S. in Petroleum Engineering) :

Core Courses: 30 units
PTE 502 Advanced Reservoir Characterization
PTE 503 Technology of Unconventional Oil and Gas Resources Development
PTE 504 Geophysics for Petroleum Engineers
PTE 505 Inverse Modeling for Dynamics Data Integration
PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs
PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes
PTE 517 Testing of Wells and Aquifers
PTE 531 Enhanced Oil Recovery
PTE 555 Well Completion, Stimulation, and Damage Control
PTE 582 Fluid Flow and Transport Processes in Porous Media

Electives (4 units):
4 units of an elective course i.e. PTE 572 (Engineering Geostatistics)

Deficiency Courses (required for Non-BS PTE students)
411, 412, 461, 466, 500

Master of Science in Petroleum Engineering/Engineering Management

Requirements for Graduation 45 units total with 3.0 GPA overall (15 additional units min. of deficiency courses are required for students without a B.S. in Petroleum Engineering) :

Core Courses: 36 units
ISE 500 Engineering Management Decisions and Statistics
ISE 514 Advanced Production Planning and Scheduling
ISE 515 Engineering Project Management
ISE 544 Management of Engineering Teams
ISE 561 Economic Analysis of Engineering Projects
1 Pre-approved Business Management Course (3 units)
PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs
PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes
PTE 517 Testing of Wells and Aquifers
PTE 531 Enhanced Oil Recovery
PTE 555 Well Completion, Stimulation, and Damage Control
PTE 582 Fluid Flow and Transport Processes in Porous Media

Electives (9 units):
9 units of PTE elective courses

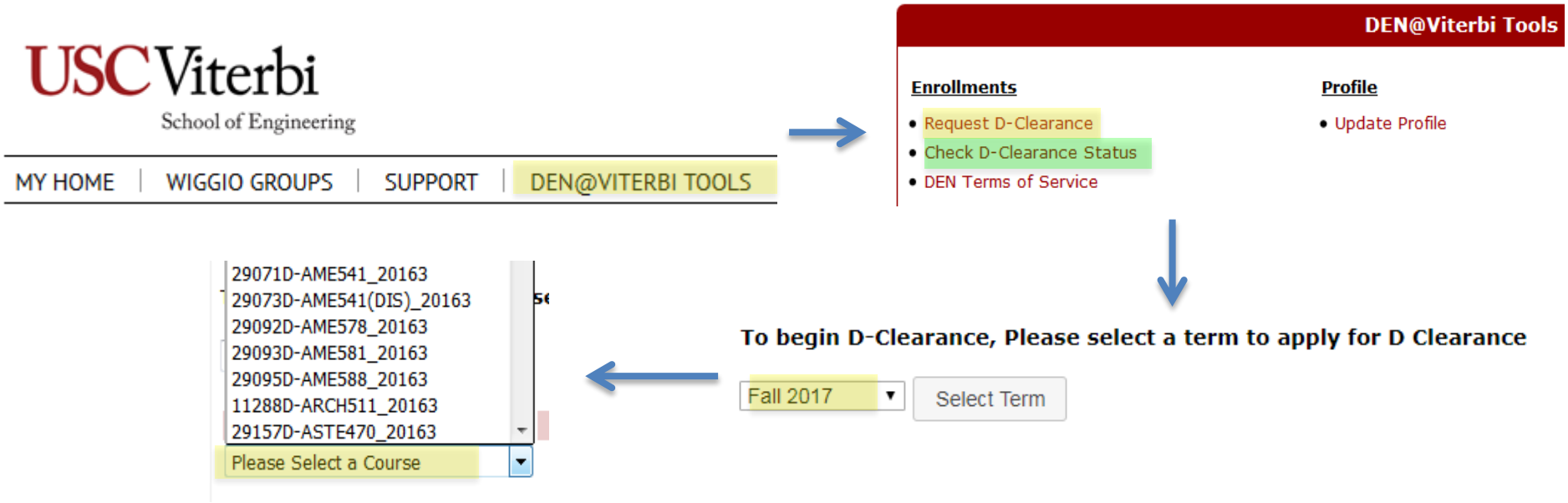
Deficiency Courses (required for Non-BS PTE students)
411, 412, 461, 466, 500

Mork Family Department Dept. Policies, Procedures, Tips

- Transfer Credit – possible to transfer in up to 4 units if not applied to previous degree
- Changing Majors
- All coursework must be from Viterbi School of Engineering
- Electives must be approved by faculty advisors. Please make sure to check in with your faculty advisor prior to enrolling into courses
- Refer to the USC Schedule of Classes for planning purposes
  http://web-app.usc.edu/soc/
- Check your USC email regularly! Forward to Gmail account

HOW TO REQUEST D-CLEARANCE FROM DEN

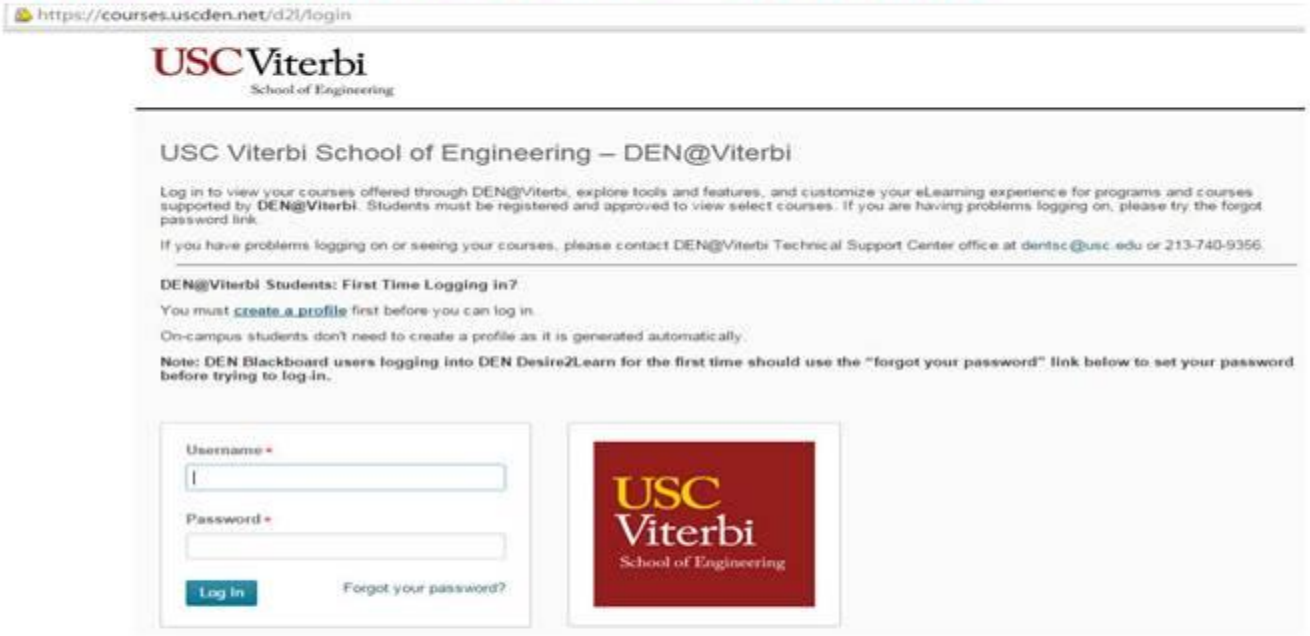
All DEN courses require D-clearance.



1. **Login to DEN Desire2Learn: http://courses.uscden.net**
2. **Go to DEN@Viterbi Tools on the navigation bar**
3. **Select "Request D-clearance" link, select the term, and select a course**
4. **Approval process takes 1 business day. To view the status of a request, click on "Check D-Clearance Status"**
5. **You can register once your request has been processed. D-clearances expire 7 days from when it is issued so register as soon as you obtain it to secure a seat in a course.**

For questions on D-Clearance status, contact masters@gapp.usc.edu

DESIRE2LEARN LOGIN & TRAINING



1. Bookmark https://courses.uscden.net
2. Your D2L username is your full USC Email Address
3. If you do not remember your D2L password, click "Forgot your password?"

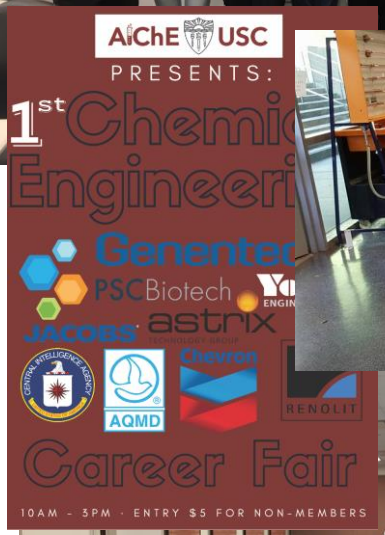
Sign up for an exclusive one-on-one training session inside a virtual classroom to learn all about Desire2Learn:
http://gapp.usc.edu/graduate-programs/den/technical-support/training-options

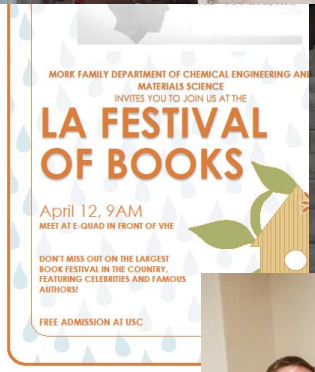
DEN@Viterbi Contacts

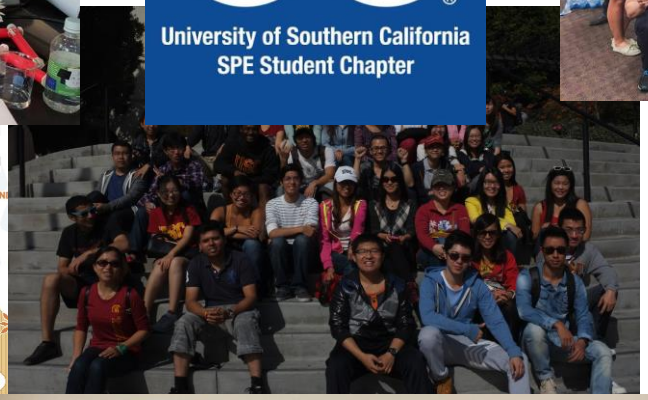
DEN@Viterbi Support	Contact Information	Staff
Technical support, Desire2Learn training, Homework	dentsc@usc.edu 213-740-9356	Rebecca Lee Bianca Richter
Exams	denexam@usc.edu 213-740-9356	Shirley Schutt
GAPP Advisor for registration, d-clearance, policies and procedures	ptrinida@usc.edu 213-740-0116	Patty Rinehart
Tuition Deferment or Vouchers	susannas@usc.edu 213-740-8198	Susanna Sahakian

Get Connected

- Student groups- SPE, AIChE, MFD MSA, VGSA
  - Professional Conferences
  - Network Sessions
  - Study Groups
  - Career fairs
  - Faculty panels
  - Alumni Panels
  - Social Events
- Stop by campus
- Check in with your advisors
- Research







MORK FAMILY DEPARTMENT

ALUMNI PANEL

14TH APRIL(THU)
6-30 PM TO 8-30 PM
LOCATION-EEB 248

GUEST SPEAKERS :

FRANK HE
PROJECT ENGINEER III AT JACOBS

VAL LERMA
ENGINEERING MANAGER AT INTERACTPROJECTS

LESSA GRUNENFELDER
LECTURER AT USC

*MORE ALUMNI SPEAKERS TO BE ANNOUNCED

FOR MORE INFO CONTACT: SYEDFARH@USC.EDU NALLA@USC.EDU

USC Viterbi
School of Engineering

University of Southern California

THANK YOU!

HAVE A GREAT FALL SEMESTER!

FIGHT ON!

A recording of this online orientation and presentation will be available for viewing and download on the GAPP website.