Five SDC Tracks

• SDC-M  Management
• SDC-S  Structures
• SDC-E  Energy
• SDC-W  Water
• SUS-SUS Sustainable Urban Systems
Program Core Faculty

Sharyn Nantuna (SDC)

Teddie Guenzer
(ClFE Admin)

Terra Strong (GPC Admin)
<table>
<thead>
<tr>
<th>Ashcraft, Howard</th>
<th>Lessing, Jerker</th>
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<tbody>
<tr>
<td>Ballati, Deborah</td>
<td>Lyons, Mike</td>
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<td>Barton, John</td>
<td>McDonough, William</td>
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<td>Bazjanac, Vladimir</td>
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<td>Bennon, Mike</td>
<td>Morkos, René</td>
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<td>Christensen, Stan</td>
<td>Moscovich, José Luis</td>
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<td>Farmakis, Dimitris</td>
<td>Peterman, Andrew</td>
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<td>Fuchs, Jack</td>
<td>Rumsey, Peter</td>
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<td>Goodson, Darryl</td>
<td>Savage, Sam</td>
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<td>Groves, Robert</td>
<td>Schwegler, Benedict</td>
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<td>Kam, Calvin</td>
<td>Shiel, Pat</td>
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<td>Katz, Glenn</td>
<td>Steep, Michael</td>
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<td>Koen, Nelson</td>
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<td>Kolderup, Erik</td>
<td>Vives, Antonio</td>
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<tr>
<td>Kurani, Danish</td>
<td>Walton, Michael</td>
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</table>
“WHY?”

Managers of project teams must exhibit a broad range of knowledge, expertise, and comprehensive project viewpoints.

All SDC curricula are based on a common core of 7 academic areas of emphasis which are weighted to provide a strong academic foundation for practice in any of the 5 tracks.

“HOW?”
**Structure of the SDC Programs**

<table>
<thead>
<tr>
<th>Spring Classes</th>
<th>Winter Classes</th>
<th>Fall Classes</th>
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<tbody>
<tr>
<td>Management Req</td>
<td>Structures Req</td>
<td>Energy Req</td>
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<tr>
<td>Water Req</td>
<td>SUS Req</td>
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</table>

### 7 Academic Areas of Emphasis

- Building Systems and Infrastructure
- Structures
- Water Infrastructures
- Energy & Atmospheric
- Construction
- Industry Control
- Skills

### Individual SDC Degree Program Unit Requirements

- Prerequisite and Baseline Requirements

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**2018 - 2019 Curriculum Requirements for MS-SDC Degree**

<table>
<thead>
<tr>
<th>AREA</th>
<th>Class</th>
<th>Units</th>
<th>Class</th>
<th>Units</th>
<th>Class</th>
<th>Units</th>
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<td>2392</td>
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<td>3</td>
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<tr>
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**Additional Curriculum Requirements**

- A combination of required and elective courses is required unless otherwise specified by the student. All courses must be taken in the same semester.

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**Certification Requirements**

- MS-SDC requires completion of 90 units of coursework, including 30 units of required coursework and 60 units of elective coursework.
## 7 Academic Areas of Emphasis

<table>
<thead>
<tr>
<th>AREA</th>
<th>Manage</th>
<th>Struct</th>
<th>Energy</th>
<th>Water</th>
<th>SUS</th>
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<td>Building &amp; Infrastructure Development</td>
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<td>Industry Context</td>
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</table>

*Curriculum Requirements for MS-GDC Degree (2013-14, etc.)*
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
MSSDC Program Sheet
Management Concentration

Name: __________________________  Adviser: __________________________  Date: ______________
Student ID#: __________________________  Email: __________________________  Proposed date for degree conferral: ______________
Coterm?: __________________________

GENERAL INSTRUCTIONS
Before the end of your first quarter, complete this program sheet by filling in the number, name and units of each course you intend to take for your degree. Meet with your adviser to secure the necessary signatures on the program sheet and any foundational requirement course waivers. Bring two copies of the completed sheet for any advising visit. Your advisor will keep one on file with the SDC admin and you will keep the other.

FOUNDATIONAL REQUIREMENTS
You must satisfy the foundational requirements listed below. Your adviser or the designated waiver faculty member must approve all courses taken elsewhere. Please ask your advisor who the designated waiver faculty member is for each of these courses. All course taken elsewhere must have a minimum Grade Point Indicator of 2.67 (B-) or above. Note: If you are amending an old program sheet, enter "on file" in the approval column for courses that have already been approved.

<table>
<thead>
<tr>
<th>Required</th>
<th>Equivalent elsewhere (course numbers/titles/institution) or quarter taken at Stanford</th>
<th>Waiver Approval</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geotechnical Engineering (CEE 101C)</td>
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<tr>
<td>Design of Steel Structures (CEE181) or Design of Reinforced Concrete Structures (CEE 182)</td>
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<tr>
<td>Construction Accounting and Finance (CEE 244)</td>
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<tr>
<td>Engineering Economy (CEE 246A)</td>
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<tr>
<td>Programming Methodology (CS 106A)</td>
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<tr>
<td>Technical Writing (E202W)</td>
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</tbody>
</table>
New and Current Student Introductions

- Name?
- Undergrad at?
- Academic Interests?
- Which SDC track?
- Key Experience?
- Interesting fact about you?
CIFE . PBL . GPC . SURI

RESEARCH CENTERS
About CIFE

The CIFE mission is to be the world's premier academic research center for Virtual Design and Construction of Architecture - Engineering - Construction (AEC) industry projects ... to support exceptionally reliable engineering and management practices to plan, design, construct and operate sustainable facilities.

More about us »
CIFE - Overview

100% funded by A/E/C industries
- Building owners and developers
- Design and construction companies
- Software and hardware vendors

Timeline
- 1988 - 2000 | Building Information Modeling (BIM)
- 2001 - 2010 | Virtual Design and Construction (VDC)
- 2011 - pres | Facility Performance Optimization, Integrated Project Delivery (IPD)
CIFE - Virtual Design and Construction

Client/Business Objectives

Project Objectives

Integrated Concurrent Engineering (ICE)

BIM

Project Production Management (PPM)
AEC Global Teamwork

CEE222
Come find out about CEE222 AEC Global Teamwork course, the PBL Lab research opportunities, talk to alumni.

CEE222 AEC Global Teamwork – this project-based learning course engages students from architecture, structural engineering, building systems MEP engineering, construction management, and life cycle financial management in cross-disciplinary, globally distributed project teams coming from partner universities worldwide. Students exercise and broaden their discipline knowledge, experience agile integrated project delivery processes, system integration and systems thinking, coordinate project concepts and tasks across time, space, discipline, culture, and immerse in cutting edge collaboration technologies.

AEC student project teams compete in response to two challenges: The Swinerton Sustainability Challenge and The DPR IPD Challenge.
Global Teamwork – CEE222 A&B
http://pbl.stanford.edu

ALL interested in CEE222:
1. **PLEASE sign up for INTERVIEW** with Dr. Fruchter in Oct-Nov - Y2E2 room 289
2. **Demonstrate 3D CAD Modeling skills at Interview:** Sketchup and REVIT or **Sign-up for the BIM class** - CEE220A in Fall
3. **Required Companion Courses Before or Concurrent with CEE222:**
   - **Structural Engineer (SE) Team Member Role:**
     Spring CEE 287 – “Earthquake Resistant Design” Miranda
   - **SE skills:** steel & concrete structural design and analysis, foundation eng., BIM

   - **Construction Manager (CM) Team Member Role:**
     Autumn CEE 240 “Project Assessment and Budgeting” Goodson
     Winter CEE 241 “Managing Fabrication and Construction” Fischer
     Winter CEE241 B (recommended) – “Infrastructure Project Delivery” Sedar
   - **CM skills:** BIM, nD CAD, scheduling, estimating, planning & control, construction equipment & methods

   - **MEP Team Member Role:**
     Autumn CEE226 – “Life Cycle Assessment” Lepech
     Winter CEE256 – “Building Systems” Kolderup
   - **MEP skills:** MEP system selection, design, sustainability assessment, BIM
The Global Projects Center (GPC) is an interdisciplinary research center at Stanford University that seeks to facilitate understanding of the financing, development and governance of strategic infrastructure assets.

- **Example Topics of Interest:**
  - How can **Institutional Investors** best allocate capital to the infrastructure asset class?
  - How can **Public-Private Partnerships** be structured to create long term value?

**GPC Research Areas**
- Institutional Investment
- Project Governance
- Frontier Finance
- Barriers to Innovation
Researchers and stakeholders applying engineering analyses to capture social impact and human behavior for natural disasters and extreme events.

http://urbanresilience.stanford.edu/
STANFORD URBAN RESILIENCE INITIATIVE

Ways to engage:

**CEE 209S: Disaster Resilience Seminar**
Wednesdays 12:30-1:20 in Blume 02-540, Room 108
Invited speakers about new decision making research and application for disaster resilience.

**SURI Coffee Hour**
Wednesday 3:30-4:30 upstairs in Blume 02-540
An informal setting for faculty and students to share resilience research updates.
Convergence of Performance-Based Engineering with Urban Resilience

Friday, October 5, 2018, Huang Engineering Center, Mackenzie Room 300

An opportunity to meet and network with SEG alumni and affiliates.

Contact racquelh@stanford.edu for the registration link.
SDC Student Groups

American Society of Civil Engineers (ASCE)
  • Speaker series

Association of General Contractors (AGC)
  • Annual Golf Tournament

Design Build Institute of America (DBIA)
  • Annual National Conference

Associated Schools of Construction (ASC)
  • Annual design-build competition held in Reno
  • Competitive application process

Construction Management Assoc. of America (CMAA)
  • Several Student scholarships

National Electrical Contractors Association (NECA)
  • Energy-efficient schools

American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE)
  • Energy-efficient buildings

Stanford Intramural Sports
  • Flag Football, Sand Volleyball, Ultimate Frisbee, Basketball, Indoor Volleyball, Wallyball, Outdoor Soccer, Team Tennis/Tennis Singles, Indoor Soccer, Softball
Upcoming Events - Socials

CEE Department Welcome Reception

- Friday, September 28
- 3:30 PM
- Spilker Lawn

Welcome Picnic together with SEG

- Saturday, September 29
- Sand Volleyball is located next to the Knight Management Center, 655 Knight Way
Upcoming Academic Deadlines

Preliminary Study List Due
- 5:00 pm, Monday, September 24
- Must be “at status” with number of units you plan to take this quarter ($200 fee for late filing)

Final Study List Due
- 5:00 pm, Friday, October 12
- Must submit final course schedule via Axess

https://registrar.stanford.edu/academic-calendar
Advising

Meet your advisor

• Sign up sheets available on advisor’s door
• Must bring completed program excel worksheet to appointment

Fill out MS Program Proposal thereafter

• Available on Construction webpage under “Info for current students”
• Submit to Jill Nomura (Y2E2 316) asap, before Thanksgiving break

Take advantage of peer advisors

• goo.gl/fHgPk3
Advising Map

Y2E2 Second Floor

E. Miranda 281
M. Lepech 285B
292A (You are here)
Via Ortega
R. Rajagopal 295
M. Fischer 297
B. Sedar 243
R. Jain 269A
Important events

Construction Safety Orientation

- Y2E2 CIFE Room (292A)
- Friday (yes, tomorrow) September 21
- 2:30 to 3:30 PM, 292A

Photo Shoot

- Y2E2 Room 270
- Friday, Oct. 5, 10:30 AM to 2:30 PM
- Professional attire
More Information ...

http://sdc.stanford.edu/
Honor Code and Fundamental Standard

Honor Code

- The Honor Code is an undertaking of the students, individually and collectively:
  - that they will not give or receive aid in examinations; that they will not give or receive unpermitted aid in class work, in the preparation of reports, or in any other work that is to be used by the instructor as the basis of grading;
  - that they will do their share and take an active part in seeing to it that others as well as themselves uphold the spirit and letter of the Honor Code.
- The faculty on its part manifests its confidence in the honor of its students by refraining from proctoring examinations and from taking unusual and unreasonable precautions to prevent the forms of dishonesty mentioned above. The faculty will also avoid, as far as practicable, academic procedures that create temptations to violate the Honor Code.
- While the faculty alone has the right and obligation to set academic requirements, the students and faculty will work together to establish optimal conditions for honorable academic work.

Violations of the Honor Code

- Examples of conduct that have been regarded as being in violation of the Honor Code include:
  - Copying from another’s examination paper or allowing another to copy from one’s own paper
  - Unpermitted collaboration
  - Plagiarism
  - Revising and resubmitting a quiz or exam for regrading, without the instructor’s knowledge and consent
  - Giving or receiving unpermitted aid on a take-home examination
  - Representing as one’s own work the work of another
  - Giving or receiving aid on an academic assignment under circumstances in which a reasonable person should have known that such aid was not permitted

Inspire

Be

Inspired

Picture source: istockphoto.com