MECHANICAL ENGINEERING

— ABET ACCREDITATION CRITERIA APPLY —

The undergraduate program in Mechanical Engineering at Stanford exposes each student to intellectual and practical experiences, and provides an environment that allows for the accumulation of knowledge and self discovery. Ultimately each graduate will acquire the ability to apply this knowledge to a variety of societal needs. Graduates have many options, from entry-level work as mechanical engineers to graduate studies in either an engineering discipline or in another field where a broad engineering background is useful. Regardless of the ultimate career choice, graduates leave the program with a solid grounding in the principals and practice of mechanical engineering, equipped to embark upon a lifetime of learning, while employing new concepts, technologies and methodologies.

STANFORD UNIVERSITY/ÉCOLE CENTRALE PARIS JUNIOR YEAR ABROAD PROGRAM

Although not formally part of the Overseas Studies Program, Stanford mechanical engineering undergraduates can receive credit for study abroad at École Centrale Paris. École Centrale Paris is one of the best known science and engineering schools in France and Europe. Stanford students are enrolled in engineering program classes with French and International students. Instruction is mostly in French. For more information, see the "Overseas Studies" section of this handbook, **http://me.stanford.edu,** or contact Prof. Mark Cappelli, Bldg. 520-520J.

RESEARCH EXPERIENCE FOR UNDERGRADUATES

The Mechanical Engineering department offers a Summer Undergraduate Research Institute **(http://me.stanford.edu/globals/summer_UGRI_2004.html**). The 2007 program will include student research training in team settings (e.g., students working together on larger projects directed by staff and faculty), and in individually-directed research settings (e.g., the student will work closely with a faculty advisor or senior graduate student).

The program is open only to Stanford Undergraduate students who will be in their senior year (or earlier) in the fall quarter following the summer research experience. Students do not necessarily have to be declared ME majors. There is no formal application for participation in the ME SURI.

Students who are interested in participating in the ME program should seek out research opportunities directly with affiliated ME faculty and secure a commitment/position for the summer by the end of May. Sponsoring faculty will contact the program administrator once a commitment to a student is made. Students can also contact the program administrator, Prof. Mark Cappelli (cap@stanford.edu, or (650) 725-2020), directly for more information.

OBJECTIVES AND OUTCOMES FOR MECHANICAL ENGINEERING

Objectives:

1. Understand basic principles, mathematics and science, and mechanical systems with an ability to analyze, model, synthesize, ideate, iterate, prototype, and implement engineering solutions in a broad range of fields.
2. Understand product development and manufacturing with the capability to work effectively in multidisciplinary teams, provide leadership and technical expertise, and be effective communicators.
3. Prepare for graduate study in engineering or other professional fields.
4. Develop an ethical approach to engineering with concern for society and the environment, and the ability to provide understandable technical expertise to non-technical individuals.

Outcomes:

(a) An ability to apply knowledge of mathematics, science, and engineering
(b) An ability to design and conduct experiments, as well as to analyze and interpret data
(c) An ability to design a system, component, or process to meet desired needs
(d) An ability to function on multi-disciplinary teams
(e) An ability to identify, formulate, and solve engineering problems
(f) An understanding of professional and ethical responsibility
(g) An ability to communicate effectively
(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context
(i) A recognition of the need for and an ability to engage in life-long learning
(j) A knowledge of contemporary issues
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

REQUIREMENTS

Mathematics and Science

The program requires a minimum 45 units of Math and Science combined. A minimum of 24 units of mathematics are required, which must include a course in Differential Equations (e.g., CME102/ENGR 155A). A minimum of 21 units of science are required, which must include both chemistry and physics, with a depth in at least one (a **depth** is defined as 3 courses taken at Stanford). See the Mathematics and Science Requirement section of this handbook for details.

Physics Depth: Students without advanced placement in Physics take PHYSICS 41, 43, & 45. Students with advanced placement should refer to the chart below for placement details. Note that only AP Physics C, not AP Physics B, will place a student out of a 40-series class requirement.

Score of 4 or 5 in Light & Heat (AP Physics C)	Take Physics 41 & 43
Score of 4 or 5 in Mechanics (AP Physics C)	Take Physics 43 & 45
Score of 4 or 5 in Electricity & Magnetism (AP Physics C)	Take Physics 41 & 45
Score of 4 or 5 for both Mechanics & Electricity & Magnetism (AP Physics C)	Take Physics 45

Engineering Fundamentals: Three courses required (Fr, So, Jr)

6. ENGR40: Introduction to Electronics (required)
7. ENGR70A: Programming Methodology or ENGR 70X: Programming Methodology & Abstractions (one of the two is required)
8. Other Fundamental course (see Figure 3-4, Engineering Fundamentals for a list of SoE approved courses and for applicable Engineering Science and Design units.)

Technology in Society (TIS): One course required from approved list:

STS	101	Science, Technology & Contemporary Society
STS	110	Ethics and Public Policy
STS	115	Etjhical Issues in Engineering
POLISCI	114S	International Security in a Changing World (Formerly STS 138)
MS&E	193	Technology & International Security (Formerly STS 171)
PUBPOL	194	Technology Policy (Formerly STS 184)
CS	201X	Computers & Ethics (Formerly STS 215)

Mechanical Engineering Depth Requirements (55-56 units from the following list)

Note: A minimum of 68 units consisting of a combination of Engineering Science and Engineering Design units from ME Depth and Engineering Fundamentals courses, and 8 or more Experimentation units, must be taken in order to satisfy ABET and SoE graduation requirements.

Course	Title	Engr. Sci	Engr. Dsgn.	Expr.	Total	Qtr	Year
ENGR 14	Applied Mechanics: Statics	2	1	-	3	AWS	Fr,So
ENGR 15	Dynamics	2	1	-	3	AS	So, Jr
ENGR 30	Engineering Thermodynamics	3	-	-	3	AW	So,Jr
ME70	Introductory Fluids Engineering	4	-	1	4	WS	So,Jr
ME101	Visual Thinking	-	3	-	3	AWS	So,Jr
ENGR102M*	Tech/Professional Writing for ME	-	-	-	1	AW	So,Jr
ME103D	Engineering Drawing	-	1	-	1	AW	So,Jr
ME80	Stress, Strain & Strength	2	1	-	3	AS	Jr,Sr
ME81**	Stress & Materials Laboratory	-	-	1	1	AS	Jr,Sr
ME112	Mechanical Engineering Design	1	3	-	4	W	Jr,Sr
ME113	Engineering Design	-	4	-	4	S	Jr,Sr
ME131A/B	Heat Transfer & Fluid Mechanics	4,/4	-,-	2/-	8	AW	Jr,Sr
ME140	Integrated Thermal Systems	4	1	2	5	S	Jr,Sr
ME161	Dynamic Systems	3	1	-	4	A	
ME203*	Manufacturing & Design	-	4	1	4	AW	Jr,Sr
Options to complete the ME Degree (select 2 courses below)							
ENGR105	Control Design	1	2	-	3	W	Jr,Sr
ME150	Internal Combustion Engines	1.5	1.5	3	3	A	

ME210	Intro to Mechatronics	2	2	3	4	W	Sr
ME220	Intro to Sensors	2	0.5	1	3	S	
ME227	Vehicle Dynamics	1.5	1.5	1	3	S	Jr,Sr
ME280	Skeletal Development & Evolution	2	1	-	3	S	Jr, Sr
ME281	Biomechanics of Movement	2	1.5	1.5	3	A	Jr, Sr
ME284	Cardiovascular Bioengineering	3	-	-	3	A	Jr, Sr

*Must be taken concurrently to fulfill the "Writing in the Major" requirement.

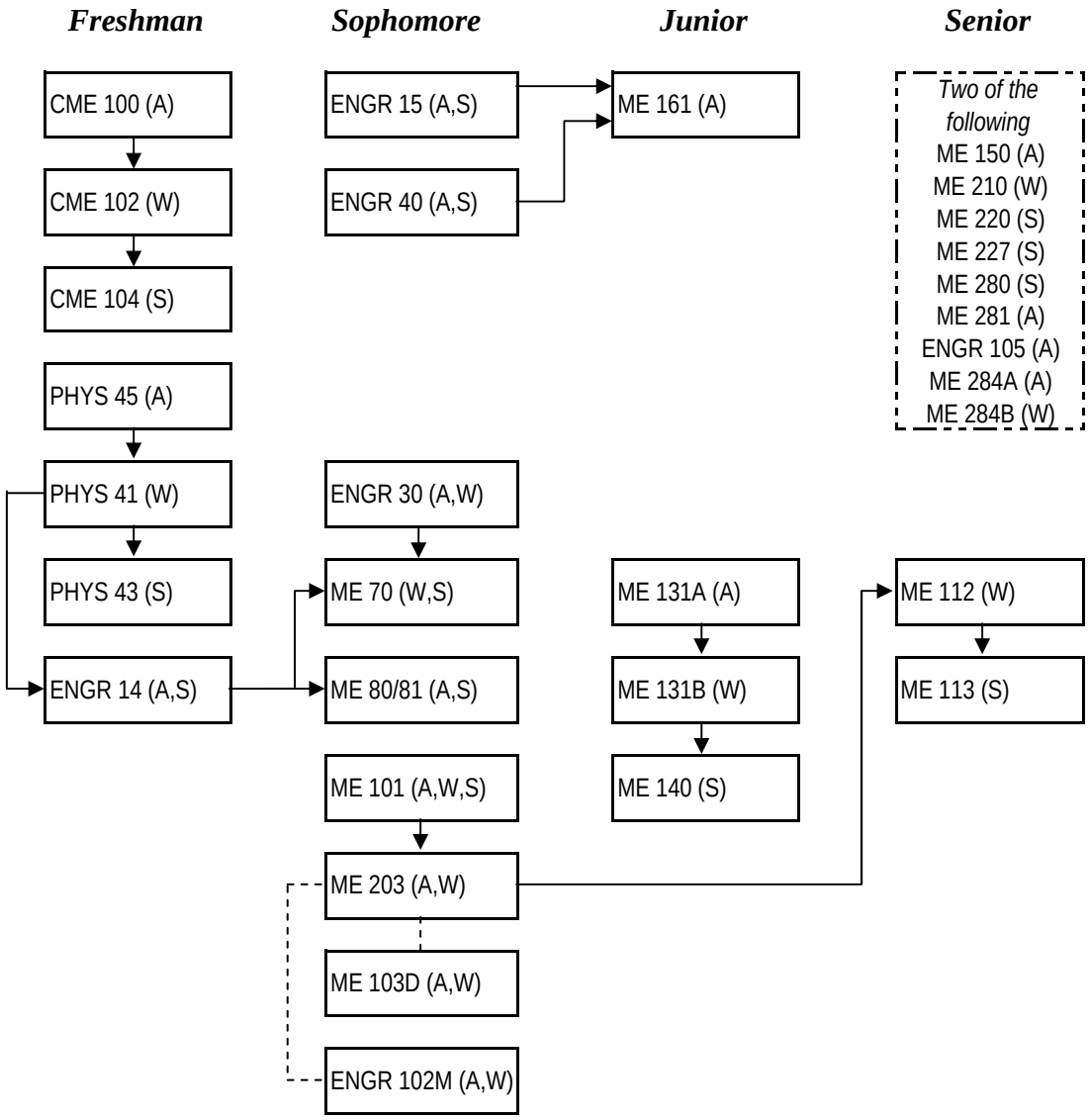
**Must be taken concurrently with ME80. Product Design majors do not have to take ME81.

NOTES:

1. The Committee on Departmental Petitions of the Department of Mechanical Engineering Student Services Office must approve any deviation from the Engineering Depth (ME) requirement. Such petitions must be prepared on the School of Engineering petition forms (see the forms section at ughb.stanford.edu or in this handbook), approved by the advisor, and be submitted by **the third week before the expected graduation quarter**. For example, for a June graduation, a student must submit the petition by the third week of Winter quarter.
2. Courses listed in the Depth requirements may not be used to satisfy the engineering fundamentals requirement.
3. It is recommended that students review prerequisites for all courses before planning their course sequence
4. Petitions to deviate from School of Engineering requirements (i.e., math, science, Engineering Fundamentals, TIS) must be approved by the Dean's office in 201 Terman.

Mechanical Engineering

Typical Sequence of Courses



* Solid arrows represent direct prerequisites.
* Dashed lines represent co-requisites.
* Dashed-line boxes enclose alternates. These may indicate alternate years in which to take a given course, or alternate courses that may be taken at a given time.

Mechanical Engineering

Plan A (Beginning with Math 40 series)

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other
Freshman	IHUM			5	IHUM			5	IHUM			5
	Writing	-	-	3	Writing	-	-	3	Math 51	5	-	-
	MATH 41	5	-	-	MATH 42	5	-	-	PHYSICS 43	4	-	-
	PHYSICS 45	4	-	-	PHYSICS 41	4	-	-	ENGR 14	-	3	-
	Subtotals	*9*	*0*	*8*	*Subtotals*	*9*	*0*	*8*	*Subtotals*	*9*	*3*	*5*
	Total			17	Total			17	Total			17
Sophomore	ME 101	-	3	-	ME 203	-	4	-	Elective	-	-	5
	ME80/81	-	4	-	ME 103D	-	1	-	ENGR 15	-	3	-
	ENGR 40	-	5	-	ENGR 102M	-	1	-	CME 104	5	-	-
	CHEM 31X	4		-	ME 70	-	4	-	GER	-	-	4
	ENGR 30	-	3	-	CME 102	5	-	-				
	Subtotals	*4*	*15*	*0*	*Subtotals*	*5*	*10*	*0*	*Subtotals*	*5*	*3*	*9*
	Total			19	Total			18	Total			17
Junior	ME 131A	-	4	-	ME 131B	-	3	-	ME 140	-	5	-
	ME 161	-	4	-	ENGR 70A	-	5	-	Engr. Fund.	-	3	-
	Language	-	-	5	Language	-	-	5	Language	-	-	5
	Sci. Elective	3	-	-	GER	-	-	4	GER	-	-	4
									Depth Course	-	3	-
	Subtotals	*3*	*8*	*5*	*Subtotals*	*0*	*8*	*9*	*Subtotals*	*0*	*11*	*9*
	Total			16	Total			17	Total			20
Senior	Elective	-	3	-	ME 112	-	4	-	ME 113	-	4	-
	Depth Course	-	3	-	Depth course	-	3	-	Sci. Elective	3	-	-
	GER	-	-	5	TIS course	-	-	5	GER	-	-	5
	Depth Course	-	3	-	GER	-	-	4	GER	-	-	5
	Subtotals	*0*	*9*	*5*	*Subtotals*	*0*	*7*	*9*	*Subtotals*	*3*	*4*	*10*
	Total			14	Total			16	Total			17

Total Math & Science Units:	47
Total Engineering Units:	78
Total Other Units:	77
Total Units:	202

Notes:

ME 203 must be taken concurrently with ENGR 102M to fulfill the "Writing in the Major" requirement.

E30 may be taken one quarter earlier.

Students who test out of the language requirement should replace language units with technical electives.

Students without AP math/science credit should add math units to this program (24 math units and 21 science units are required).

Students with AP Physics consult the chart under "ME Requirements".

Students may take CME100 in Fall (Sophomore Yr) instead of MATH 51 in Spring (Freshman Yr)

CME 100, 102, 104 are also listed as ENGR 154, 155A, and 155B.

ENGR 30 may be taken in Winter and ME70 in Spring.

ENGR 15 may be taken in Spring.

Mechanical Engineering

Plan B (Beginning with CME 100 Series)

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other
Freshman	IHUM			5	IHUM			5	IHUM			5
	Writing	-	-	3	Writing	-	-	3	CME 104	5	-	-
	CME 100	5	-	-	CME 102	5	-	-	PHYS 43	4	-	-
	PHYS 45	5			PHYS 41	4	-	-	ENGR 14	-	3	-
	Subtotals	*10*	*0*	*8*	*Subtotals*	*9*	*0*	*8*	*Subtotals*	*9*	*3*	*5*
	Total			18	Total			17	Total			17
Sophomore	ME 101	-	3	-	ME 203	-	4	-	ME 70	-	4	-
	ENGR 15	-	3	-	ME 103D	-	1	-	ENGR 40	-	5	-
	ENGR 30	-	3	-	ENGR 102M	-	1	-	Elective	-	-	5
	ME80/81	-	4	-	Elective	-	-	3	Elective	-	-	3
	CHEM 31X	4	-		GER	-	-	4				
	Subtotals	*4*	*13*	*0*	*Subtotals*	*0*	*6*	*7*	*Subtotals*	*0*	*9*	*8*
	Total			17	Total			13	Total			17
Junior	ME 131A	-	4	-	ME 131B	-	3	-	ME 140	-	5	-
	ME 161	-	4	-	ENGR 70A	-	5	-	Engr.Fund	-	3	-
	Language	-	-	5	Language	-	-	5	Language	-	-	5
	Sci. Elective	3	-	-	GER	-	-	4	GER	-	-	4
									Depth Course	-	3	-
	Subtotals	*3*	*8*	*5*	*Subtotals*	*0*	*8*	*9*	*Subtotals*	*0*	*11*	*9*
	Total			16	Total			17	Total			20
Senior	Elective	-	4	-	ME 112	-	4	-	ME 113	-	4	-
	Depth Course	-	3	-	Depth Course	-	3	-	Sci. Elct	3	-	-
	Elective	-	-	3	TIS course	-	-	5	GER	-	-	4
	GER	-	-	5	GER	-	-	4	GER	-	-	5
	Subtotals	*0*	*7*	*8*	*Subtotals*	*0*	*7*	*9*	*Subtotals*	*3*	*4*	*9*
	Total			15	Total			16	Total			16

Total Math & Science Units:	38
Total Engineering Units:	76
Total Other Units:	85
Total Units:	199

Notes:

ME 203 must be taken concurently with ENGR 102M to fulfills the "Writing in the Major" requirement.
ENGR 30 may be taken one quarter earlier.
Students who test out of the language requirement should replace language units with technical electives.
Students without AP math credit should add math units to this program (24 units total are required).
Students with AP Physics consult the chart under "ME Requirements".
ENGR 15 may be taken in Spring.
Students may elect to take Math 51, 52, 53 instead of CME 100, 102, 104.
CME 100, 102, 104 are also listed as ENGR 154, 155A, and 155B.

Mechanical Engineering

Plan C (Tough, since both 113 and 140 are taken senior year)

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other
Freshman	IHUM			5	IHUM			5	IHUM			5
	Writing	-	-	3	Writing	-	-	3	CME 104	5	-	-
	CME 100	5	-	-	CME 102	5	-	-	PHYSICS 43	4	-	-
	PHYSICS 45	4	-	-	PHYSICS 41	4	-	-	ENGR 14	-	3	-
	Subtotals	*9*	*0*	*8*	*Subtotals*	*9*	*0*	*8*	*Subtotals*	*9*	*3*	*5*
	Total			17	Total			17	Total			17
Sophomore	ENGR 15	-	3	-	ME 203	-	4	-	GER	-	-	4
	ENGR 30	-	3	-	ME 103D	-	1	-	ME 70	-	4	-
	ME 101	-	3	-	ENGR 102M	-	1	-	ENGR 40	-	5	-
	ME 80/81	-	4	-	Elective	-	-	3	Elective	-	-	3
	CHEM 31X	4			Sci Elec	3	-	-				
	Subtotals	*4*	*13*	*0*	*Subtotals*	*3*	*6*	*3*	*Subtotals*	*0*	*9*	*7*
	Total			17	Total			12	Total			16
Junior	ENGR 70A	-	5	-	Sci. Elective	3	-	-	Sci. Elective	3	-	-
	ME 161	-	4	-	Elective	-	-	4	Engr. Fund.	-	3	-
	Language	-	-	5	Language	-	-	5	Language	-	-	5
	Depth course	-	3	-	GER	-	-	4	GER	-	-	4
	Subtotals	*0*	*12*	*5*	*Subtotals*	*3*	*0*	*13*	*Subtotals*	*3*	*3*	*9*
	Total			17	Total			16	Total			15
Senior	Depth course	-	3	-	ME 112	-	4	-	ME 113	-	4	-
	ME 131A	-	4	-	ME 131B	-	3	-	ME 140	-	5	-
	Elective	-	-	3	TIS course	-	-	5	Elective	-	-	3
	GER	-	-	5	Depth Course	-	3	-	GER	-	-	5
	Subtotals	*0*	*7*	*8*	*Subtotals*	*0*	*10*	*5*	*Subtotals*	*0*	*9*	*8*
	Total			15	Total			15	Total			17

Total Math & Science Units:	40
Total Engineering Units:	72
Total Other Units:	79
Total Units:	191

Notes:

ME 203 must be taken concurently with ENGR 102M to fulfill the "Writing in the Major" requirement.
ENGR 30 may be taken one quarter earlier.
Students who test out of the language requirement should replace language units with technical electives.
Students without AP math credit should add math units to this program (24 units total are required).
Students with AP Physics credit consult the chart under "ME Requirements"
ME 70 May be taken in Winter or Spring.
CME 102 May be taken Autumn or Spring.
Students may elect to take Math 51, 52, 53.
CME 100, 102, 104 are also listed as ENGR 154, 155A, and 155B.

Mechanical Engineering

Plan D (For those who want to do it all)

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other
Freshman	IHUM			5	IHUM			5	IHUM			5
	Writing	-	-	3	Writing	-	-	3	CME 104	5	-	-
	CME 100	5	-	-	CME 102	5	-	-	PHYSICS 43	4	-	-
	PHYSICS 45	4	-	-	PHYSICS 41	4	-	-	ENGR 14	-	3	-
	Subtotals	*9*	*0*	*8*	*Subtotals*	*9*	*0*	*8*	*Subtotals*	*9*	*3*	*5*
	Total			17	Total			17	Total			17
Sophomore	ENGR 30	-	3	-	ME 203	-	4	-	ME 70	-	4	-
	ENGR 15	-	3	-	ME 103D	-	1	-	ENGR 40	-	5	-
	CHEM 31X	4	-	-	ENGR 102M	-	1	-	ENGR Fund	-	3	-
	GER	-	-	5	ME 101	-	3	-	Sci Elective	3	-	-
	ME80/81	-	4	-	GER	-	-	4				
					Sci. Elective	3	-	-				
	Subtotals	*4*	*10*	*5*	*Subtotals*	*3*	*9*	*4*	*Subtotals*	*3*	*12*	*0*
	Total			19	Total			16	Total			15
Junior	ME 131A	-	4	-	ME 131B	-	3	-	ME 140	-	5	-
	ME 161	-	4	-	ENGR155C	5	-	-	GER	-	-	4
	Language	-	-	5	Language	-	-	5	Language	-	-	5
	ENGR 70A	-	5	-	GER	-	-	4	GER	-	-	4
	Subtotals	*0*	*13*	*5*	*Subtotals*	*5*	*3*	*9*	*Subtotals*	*0*	*5*	*13*
	Total			18	Total			17	Total			18
Senior	Sci Elective	3	-	-	ME 112	-	4	-	ME 113	-	4	-
	Elective	-	-	3	Depth course	-	3	-	Sci. Elective	3	-	-
	Depth Course	-	3	-	TIS course	-	-	5	GER	-	-	4
	GER	-	-	5	Elective	-	-	4	GER	-	-	5
									Depth Course	-	3	-
	Subtotals	*3*	*3*	*8*	*Subtotals*	*0*	*7*	*9*	*Subtotals*	*3*	*7*	*9*
	Total			14	Total			16	Total			19

Total Math & Science Units:	48
Total Engineering Units:	72
Total Other Units:	83
Total Units:	203

Notes:

ME 203 must be taken currently with ENGR 102M to fulfill the "Writing in the Major" requirement.
ENGR 30 may be taken one quarter earlier.
Students who test out of the language requirement should replace language units with technical electives.
Students without AP math/science credit should add math/science units to this program (24 math & 21 science are required).
Students with AP credit in Physics consult the chart under "ME Requirements".
Students may elect to take Math 51, 52 & 53 instead of CME 100, 102, 104.
CME 100, 102, 104 are also listed as ENGR 154, 155A, and 155B.
ME 70 may be taken in Winter or Spring.

Mechanical Engineering: Stanford/Ecole Centrale Paris

Sample Program with Junior Abroad at Ecole Centrale Paris

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other
Freshman	IHUM			5	IHUM			5	IHUM			5
	Math 51	5			Math 52	5			Math 53	5		
	Physics 45	4			Physics 41	4			Physics 43	4		
	Writing			3	Writing			3	Engr 14		3	
	Subtotals	*9*	*0*	*8*	*Subtotals*	*9*	*0*	*8*	*Subtotals*	*9*	*3*	*5*
	Total			17	**Total**			17	**Total**			17
Sophomore	French 1			5	French 2			5	French 3			5
	Chem 31X	4			ME203		4		Engr 15		3	
	ME80/81		4		ME103D		1		CME 104	5		
	Engr 40		5		Engr 102M		1		GER			4
	Engr 30		3		CME 102	5						
	Subtotals	*4*	*12*	*5*	*Subtotals*	*5*	*6*	*5*	*Subtotals*	*5*	*3*	*9*
	Total			21	**Total**			16	**Total**			17
**Junior*	Phys 130	5			ME70		4		ME131A		4	
At Ecole	ME331A	5			Engr 155C	3			Sci. Elective*	6		
	Math 106	3			Engr 70A		5		Phil 10			3
	Engr 25		3		Soc120/Econ1			4	World Culture			4
	Subtotals	*13*	*3*	*0*	*Subtotals*	*3*	*9*	*4*	*Subtotals*	*6*	*4*	*7*
	Total			16	**Total**			16	**Total**			17
Senior	ME101		3		ME112		4		ME113		3	
	Depth course		3		Depth Course		3		ME140		5	
	GER			5	TIS course		5		GER			5
	Depth course		3		GER			4	GER			5
	ME161		4		ME131B		3					
	Subtotals	*0*	*13*	*5*	*Subtotals*	*0*	*15*	*4*	*Subtotals*	*0*	*8*	*10*
	Total			18	**Total**			19	**Total**			18

Total Math & Science Units:	63
Total Engineering Units:	76
Total Other Units:	70
Total Units:	**209**

Notes:

*Stanford equivalent courses taken at Ecole.

ME 203 must be taken concurrently with ENGR 102M to fulfill the "Writing in the Major" requirement.

E30 may be taken one quarter earlier.

Students without AP math/science credit should add math units to this program (24 math units and 21 science units are required).

Students with AP Physics consult the chart under "ME Requirements".

ENGR 30 may be taken in Winter .

ENGR 15 may be taken in Spring.

CME 100, 102, 104 are also listed as ENGR 154, 155A, and 155B.

INSTRUCTIONS FOR DECLARING MAJOR IN MECHANICAL ENGINEERING (BS-ME)

1. Print a copy of your transcript from Axess.
2. Download and complete the program sheet from the School of Engineering web site (**http://soe.stanford.edu**). Please include courses you plan to take as well as those you have already taken. Pick up a major declaration form from the Mechanical Engineering Student Services Office (Building 530, room 125).
3. Identify an undergraduate program advisor from the list on the back of the declaration form. If you prefer, the Student Services Office will assign one to you.
4. Discuss the program with your advisor and have him/her approve and sign your completed program sheet and major declaration form.
5. Return all completed documents and transcripts to the Student Services Office, Building 530, room 125.
6. E-mail Patrick Ferguson (patrickf@stanford.edu), to let him know that you have declared your major so that he may approve it.
7. Attend the quarterly ME Declaration lunch to finalize the process.

Stanford University ♦ School of Engineering

Mechanical Engineering

2006-2007 Sample Program Sheet

— ABET Accreditation Criteria Apply —

Final version of completed and signed program sheet due to the department no later than one month prior to the last quarter of senior year.

Name: _____ SU ID: _____

Local Address: _____ Local Phone: _____

_____ Email: _____

_____ Date B.S. expected: _____

Mathematics and Science Requirement

Dept	Course	Title	Units				Grade	✓ if Transfer	Transfer/AP Approval
			Engr Sci	Engr Des	Experiment	Total			Initials
Mathematics (24 units minimum)									
				Mathematics Unit Total			*(24 units minimum)*		
Science (21 units minimum)									
					Science Unit Total	0	*(21 units minimum)*		
					Mathematics and Science Unit Total		*(45 units minimum)*		

Technology in Society Requirement (1 course required: see Note 1 for approved list))

						3-5			

NOTES

* Engineering Science, Design, and Experimentation units do not apply to shaded areas.
* This form is available as an Excel file at http://ughb.stanford.edu/. The printed form must be signed by the advisor and, if required, by the departmental representative. Changes must be initialed in ink.
* All courses listed on this form must be taken for a letter grade if offered by the instructor.
* Minimum Combined Grade Point Average for all courses in Engineering Topics (Engineering Science and Engineering Design courses) is 2.0.
* Transfer and AP credits in Math, Science, Funds., & TIS must be approved by the SoE Dean's office. Transfer credits in Engineering Depth must be approved by the Advisor. Transfer credit information and petitions are available at http://ughb.stanford.edu/transfer.html.
* All courses listed on this form must only be included under one category.

(1) Must choose TIS course from the following ME/SoE-approved courses: STS 101, 110, 115; MS&E 193, POLISCI 114S, PUBPOL 194, or CS 201X.

Mechanical Engineering Program Sheet (continued)

Engineering Topics (Engineering Science + Engineering Design; add columns 1 and 2. See Note 2)

Dept	Course	Title	Units				Grade	✓ if Transfer	Transfer/AP Approval Initials
			Engr Sci	Engr Des	Experiment	Total			
Engineering Fundamentals (3 courses required: Choose one more course)									
ENGR	40	Intro Electronics (req'd)	2	3	2	5			
ENGR	70A	Programming Methodology (req'd)	2--4	1	0	3--5			
		Engineering Fundamentals Unit Total							
Engineering Depth (Be advised, no course may be listed twice on the sheet. No double-counting.)									
ENGR	14	Applied Mechanics: Statics (req'd)	2	1	0	3			
ENGR	15	Dynamics (req'd)	2	1	0	3			
ENGR	30	Engineering Thermodynamics (req'd)	3	0	0	3			
ME	70	Introductory Fluids Engineering (req'd)	4	0	1	4			
ME	101	Visual Thinking (req'd)	0	3	0	3			
ME	103D	Engineering Drawing (req'd)	0	1	0	1			
ME	80/81	Stress, Strain & Strength (req'd)	2	1	1	4			
ME	112	Mechanical Systems (req'd)	1	3	0	4			
ME	113	Engineering Design (req'd)	0	4	0	4			
ME	131A	Heat Transfer (req'd)	4	0	2	4			
ME	131B	Fluid Mechanics (req'd)	3	0	0	4			
ME	140	Advanced Thermal Systems (req'd)	4	1	2	5			
ME	161	Dynamic Systems (req'd)	3	1	0	4			
ENGR	102M	Tech/Prof. Writing (req'd) (see note 4)	0	0	0	1			
ME	203	Manufacturing & Design (req'd) (see note 4)	0	4	1	4			
Options (select 2 courses from the list in Note 5)									
		Engr Science/Engr Design/Experiment/Depth Unit Totals							

Program Totals (ABET Requirements)

Mathematics and Science		*(45 units minimum)*
Engineering Topics (Engr Science + Engr Design)		*(68 units minimum)*
Experimental		*(8 units minimum)*

Program Approvals

Advisor

Printed Name: _____ Date: _____

Signature: _____

Departmental

Printed Name: _____ Date: _____

Signature: _____

School of Engineering

Printed Name: _____ Date: _____

Signature: _____

NOTES (continued from page 1)

(2) Engr. Science and Design units from Fundamentals and Depth (columns 1 and 2 combined) must equal a min. of 68 units to satisfy ABET requirements for graduation.

(4) Fulfills the "Writing in the Major" requirement. ENGR102M and ME203 must be taken concurrently.

(5) Choose two depth options from the following list: ENGR ENGR105, ME150, 210, 220, 227, 280, 281, 284AB