

CURRICULUM PROPOSAL FORM

DEADLINES:

REGULAR COURSE PROPOSALS: OCTOBER 23, 1998 FOR FALL, 1999 AND FEBRUARY 19, 1999 FOR SPRING, 2000
SHORT-TERM COURSE PROPOSALS: DECEMBER 11, 1998 FOR FALL, 1999 AND MARCH 26, 1998 FOR SPRING 2000

PROPOSAL TITLE: Minor Change in Curriculum for Mechanical Engineering Program Yr 2000, Yr 2001, Yr 2002, and Yr 2003 & beyond
SPONSOR/S: T. R. Chandrupatla, Chair, Mechanical Engineering
DEPARTMENT: Mechanical Engineering

CHECK ALL THAT APPLY:

UNDERGRADUATE GRADUATE

COLLEGE: Engineering

If LAS: History/Humanities
 Math/Sciences
 Social/Behavioral Sciences

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TYPE OF PROPOSAL (Check ALL that Apply)

General Education New Course (NOT Gen. Ed.)
 New Course in Bank Name Change (Dept., School, Major)
 Existing course, Add To Bank Changes in Degree Requirements
 Multicultural/Global Designation Changes Involve Gen. Ed. requirements
 Writing Intensive Designation Minor Changes to Existing Courses
 New Minor/Concentration/Specialization Course is NOT General Education
 New Major/Degree Program Course IS General Education
 Short Term Course Proposal

DEPARTMENT

(SIGNATURE INDICATES APPROVAL)

T.R. Chandrupatla 10/20/98
DEPT. CURRICULUM CHAIR / DATE

T.R. Chandrupatla 10/20/98
DEPT. CHAIRPERSON / DATE

COLLEGE CURRICULUM COMMITTEE

DATE OF OPEN HEARING (if necessary) _____

APPROVED
 NOT APPROVED
COMMENTS:

Robert P. Hebert 11/5/98
SIGNATURE DATE

ACADEMIC DEAN (& GRADUATE DEAN, for New Graduate Programs Only)

APPROVED
 NOT APPROVED
COMMENTS:

[Signature] 10/23/98
SIGNATURE (Academic Dean) DATE

SIGNATURE (Graduate Dean) DATE

UNIVERSITY CURRICULUM COMMITTEE

DATE OF OPEN HEARING (if necessary) 11/5/98 (College level only)

APPROVED

NOT APPROVED

COMMENTS:

Approved on Review 1/21/99
SIGNATURE DATE

SENATE

Date announced at Senate 11/6/98 (email) + 11/17/98 meeting

Voted upon at Senate: Approved Not Approved Date:

EXECUTIVE VICE PRESIDENT/PROVOST

EB 8:45

APPROVED

NOT APPROVED If no, reasons are as follows:

STUDENT CREDIT HOURS _____ FACULTY LOAD HOURS _____ EQUALIZED CREDIT HOURS _____

OFFICIAL COPY & APPROVAL SHEET FILED (DATE): _____

DATE/SIGNATURE EXECUTIVE VICE PRESIDENT/PROVOST C. M. [Signature]

REGISTRAR

DATE APPROVED COURSE DESCRIPTION RECEIVED _____

HEGIS TAXONOMY & COURSE NUMBER ASSIGNED _____

DATE/SIGNATURE OF REGISTRAR Robert A. Lubat 2/23/99

NOTIFICATION FORWARD:

SENATE CURRICULUM COMMITTEE CHAIRPERSON

DEPARTMENT CHAIRPERSONS

ACADEMIC DEAN(S)

REGISTRAR

SPONSOR(S)

TBI
2/25/99

Minor Change

1. Details:

a) Change Curricula: Minor curricula changes for students graduating in years 2000, 2001, 2002, and 2003 and beyond

There is no change in the current total credit content of the curricula. There is no change in the general education content of the curricula.

b) Sponsor: Dr. Tirupathi R. Chandrupatla, Chair of Mechanical Engineering and the Mechanical Engineering Curriculum Committee

c) Credit Hours: There is no change in total credit hours of the previous approved curricula and there is no change in the general education credits.

d) Curricular Effect: The curricular changes affect graduating classes of 2000, 2001, 2002, and 2003 and beyond

e) Resources: No additional resources will be needed for this minor change

2. Rationale:

The proposed change is consistent with the on-going assessment and review of the College of Engineering's programs of study. The minor changes are as follows:

Class of 2000 The Senior Engineering Clinic I and Senior Engineering Clinic II are each changed from 3 credits to 2 credits. A required 2 credit course 'Machine Design' is introduced. This is consistent with the demands of the accreditation requirements. The total credits remains unchanged at 129.

Class of 2001 The Junior Engineering Clinic I, Junior Engineering Clinic II, Senior Engineering Clinic I, and Senior Engineering Clinic II are each changed from 3 credits to 2 credits. Thus the four credits that are reduced are replaced by introducing two required courses 'Machine Design 2 credits and Microscale Systems 2 credits. Machine Design is a required design course and Microscale systems addresses some of the modern developments in Mechanical and interdisciplinary engineering areas. The total credits remains unchanged at 130.

Class of 2002 The changes are same as those for the Class of 2001. The total credits remains unchanged at 128.

Class of 2003 The changes to engineering courses are same as those for the Classes of 2001 and 2002. In addition, the course Chemistry I is replaced by Advanced College Chemistry I which is now being developed by the Science department.

3. Results of Consultations:

The various aspects of these changes have been discussed with the ABET consultants who encouraged these changes.

MECHANICAL ENGINEERING CURRICULUM - Class of 2000

Novemehr 5, 1998

Revised by ME Curriculum Committee (H.C.Gabler, J.C.Chen,A.J.Marchese,
J.Mariappan, T.R.Chandrupatla)

General Education

Communications

College Composition I 1501.111 3

College Composition II taken as Fresh. Engineering Clinic II 0901.102 and Soph.

Engineering Clinic II 0901.201 *see below*

Public Speaking 1506.202 3

Science and Mathematics

Calculus I 1701.130 4

Chemistry I 1906.100 4

History, Humanities, Language

History, Humanities, Language 3

History, Humanities, Language 3

Social and Behavioral Sciences

Introduction to Microeconomics 2204.102 3

Social and Behavioral Science 3

Arts

3

General Education Electives

Taken to fulfil ASME/ABET Accreditation requirements

Calculus II 1701.131 4

Physics I 1902.200 4

Physics II 1902.201 4

Major Requirements

Computer Sci. & Prog. 1704.103 4

Freshman Engineering Clinic I 0901.101 3

Freshman Engineering Clinic II 0901.102 3

Statics 0901.271 2

Solid Mechanics 0901.272 2

Soph. Engineering Clinic I 0901.201 3

Soph. Engineering Clinic II 0901.202 1

Math for Engineering Anal I 1701.334 4

Math for Engineering Anal II 1701.335 4

Engineering Materials I 0901.281 2

Engineering Materials II 0901.282 2

Dynamics 0901.291 2

Vibrations 0910.201 2

Engineering Thermo. I 0910.311 2

Engineering Thermo. II 0910.312 2

Mechanical Design & Synthesis 0910.341	4
Networks I 0909.201	2
Junior Engineering Clinic I 0901.301	3
Junior Engineering Clinic II 0901.302	3
Quality and Reliability in Des. & Mfg. 0910.342	3
Fluid Mechanics I 0901.341	2
Fluid Mechanics II 0910.313	2
Mechanical System Dyn. & Control 0910.343	3
Transfer Processes I – Heat 0906.311	2
Electronics 0909.311	2
Machine Design 0910.241	2
Science/Math Elective ¹	3
Approved Major Elective ² 0910.xxx	3
Approved Major Elective ² 0910.xxx	3
Senior Engineering Clinic I 0901.401	2
Senior Engineering Clinic II 0901.402	2
Approved Major Elective ² 0910.xxx	3
Approved Major Elective ² 0910.xxx	3
Technical Elective ¹	3
Total Credits	129

¹ Approval of advisor required

² Two electives from energy systems, and two from mechanical systems

MECHANICAL ENGINEERING CURRICULUM - Class of 2001

November 5, 1998

Revised by ME Curriculum Committee (H.C.Gabler, J.C.Chen, A.J.Marchese,
J.Mariappan, T.R.Chandrupatla)

General Education

Communications

College Composition I	1501.111	3
College Composition II	taken as Soph. Engineering Clinic I	0901.201 <i>see below</i>
Public Speaking	taken as Soph. Engineering Clinic II	0901.202 <i>see below</i>

Science and Mathematics

Calculus I	1701.130	4
Chemistry I	1906.100	4

History, Humanities, Language

History, Humanities, Language		3
History, Humanities, Language		3

Social and Behavioral Sciences

Introduction to Microeconomics	2204.102	3
Social and Behavioral Science		3

Arts

3

General Education Electives

Taken to fulfil ASME/ABET Accreditation requirements

Calculus II	1701.131	4
Physics I	1902.200	4
Physics II	1902.201	4

Major Requirements

Computer Sci. & Prog.	1704.103	4
Freshman Engineering Clinic I	0901.101	3
Freshman Engineering Clinic II	0901.102	3
Statics	0901.271	2
Solid Mechanics	0901.272	2
Soph. Engineering Clinic I	0901.201	4
Soph. Engineering Clinic II	0901.202	4
Math for Engineering Anal I	1701.334	4
Math for Engineering Anal II	1701.335	4
Engineering Materials I	0901.281	2
Engineering Materials II	0901.282	2
Dynamics	0901.291	2
Vibrations	0910.201	2
Engineering Thermo. I	0910.311	2
Engineering Thermo. II	0910.312	2
Mechanical Design & Synthesis	0910.341	4

Machine Design 0910.241	2
Networks I 0909.201	2
Junior Engineering Clinic I 0901.301	2
Junior Engineering Clinic II 0901.302	2
Quality and Reliability in Des. & Mfg. 0910.342	3
Fluid Mechanics I 0901.341	2
Fluid Mechanics II 0910.313	2
Mechanical System Dyn. & Control 0910.343	3
Transfer Processes I – Heat 0906.311	2
Electronics 0909.311	2
Science/Math Elective ¹	3
Approved Major Elective ² 0910.xxx	3
Approved Major Elective ² 0910.xxx	3
Senior Engineering Clinic I 0901.401	2
Senior Engineering Clinic II 0901.402	2
Microscale Systems 0910.403	2
Approved Major Elective ² 0910.xxx	3
Approved Major Elective ² 0910.xxx	3
Technical Elective ¹	3
Total Credits	130

¹ Approval of advisor required

² Two electives from energy systems, and two from mechanical systems

MECHANICAL ENGINEERING CURRICULUM - Class of 2002

January 27, 1998

Revised by ME Curriculum Committee (H.C.Gabler, J.C.Chen, A.J.Marchese,
J.Mariappan, T.R.Chandrupatla)

General Education

Communications

College Composition I 1501.111	3
College Composition II taken as Soph. Engineering Clinic I 0901.201 <i>see below</i>	
Public Speaking taken as Soph. Engineering Clinic II 0901.202 <i>see below</i>	

Science and Mathematics

Calculus I 1701.130	4
Chemistry I 1906.100	4

History, Humanities, Language

History, Humanities, Language	3
History, Humanities, Language	3

Social and Behavioral Sciences

Introduction to Microeconomics 2204.102	3
Social and Behavioral Science	3

Arts

3

General Education Electives

Taken to fulfil ASME/ABET Accreditation requirements

Calculus II 1701.131	4
Physics I 1902.200	4
Physics II 1902.201	4

Major Requirements

Computer Sci. & Prog. 1704.103	4
Freshman Engineering Clinic I 0901.101	2
Freshman Engineering Clinic II 0901.102	2
Statics 0901.271	2
Solid Mechanics 0901.272	2
Soph. Engineering Clinic I 0901.201	4
Soph. Engineering Clinic II 0901.202	4
Math for Engineering Anal I 1701.334	4
Math for Engineering Anal II 1701.335	4
Engineering Materials I 0901.281	2
Engineering Materials II 0901.282	2
Dynamics 0901.291	2
Vibrations 0910.201	2
Engineering Thermo. I 0910.311	2
Engineering Thermo. II 0910.312	2
Mechanical Design & Synthesis 0910.341	4

Machine Design 0910.241	2
Networks I 0909.201	2
Junior Engineering Clinic I 0901.301	2
Junior Engineering Clinic II 0901.302	2
Quality and Reliability in Des. & Mfg. 0910.342	3
Fluid Mechanics I 0901.341	2
Fluid Mechanics II 0910.313	2
Mechanical System Dyn. & Control 0910.343	3
Transfer Processes I – Heat 0906.311	2
Electronics 0909.311	2
Science/Math Elective ¹	3
Approved Major Elective ² 0910.xxx	3
Approved Major Elective ² 0910.xxx	3
Senior Engineering Clinic I 0901.401	2
Senior Engineering Clinic II 0901.402	2
Microscale Systems 0910.403	2
Approved Major Elective ² 0910.xxx	3
Approved Major Elective ² 0910.xxx	3
Technical Elective ¹	3
Total Credits	128

¹ Approval of advisor required

² Two electives from energy systems, and two from mechanical systems

MECHANICAL ENGINEERING CURRICULUM - Class of 2003 and beyond
 January 27, 1998
 Revised by ME Curriculum Committee (H.C.Gabler, J.C.Chen, A.J.Marchese,
 J.Mariappan, T.R.Chandrupatla)

General Education

Communications

College Composition I 1501.111	3
College Composition II taken as Soph. Engineering Clinic I 0901.201 <i>see below</i>	
Public Speaking taken as Soph. Engineering Clinic II 0901.202 <i>see below</i>	

Science and Mathematics

Calculus I 1701.130	4
Advanced College Chemistry I 1906.xxx	4

History, Humanities, Language

History, Humanities, Language	3
History, Humanities, Language	3

Social and Behavioral Sciences

Introduction to Microeconomics 2204.102	3
Social and Behavioral Science	3

Arts

3

General Education Electives

Taken to fulfil ASME/ABET Accreditation requirements

Calculus II 1701.131	4
Physics I 1902.200	4
Physics II 1902.201	4

Major Requirements

Computer Sci. & Prog. 1704.103	4
Freshman Engineering Clinic I 0901.101	2
Freshman Engineering Clinic II 0901.102	2
Statics 0901.271	2
Solid Mechanics 0901.272	2
Soph. Engineering Clinic I 0901.201	4
Soph. Engineering Clinic II 0901.202	4
Math for Engineering Anal I 1701.334	4
Math for Engineering Anal II 1701.335	4
Material Science 0901.281	2
Manufacturing Processes 0901.282	2
Dynamics 0901.291	2
Vibrations 0910.201	2
Engineering Thermo. I 0910.311	2
Engineering Thermo. II 0910.312	2
Mechanical Design & Synthesis 0910.341	4

Networks I 0909.201	2
Junior Engineering Clinic I 0901.301	2
Junior Engineering Clinic II 0901.302	2
Quality and Reliability in Des. & Mfg. 0910.342	3
Fluid Mechanics I 0901.341	2
Fluid Mechanics II 0910.313	2
Machine Design 0910.241	2
Mechanical System Dyn. & Control 0910.343	3
Transfer Processes I – Heat 0906.311	2
Electronics 0909.311	2
Science/Math Elective ¹	3
Approved Major Elective ² 0910.xxx	3
Approved Major Elective ² 0910.xxx	3
Senior Engineering Clinic I 0901.401	2
Senior Engineering Clinic II 0901.402	2
Microscale Systems 0910.430	2
Approved Major Elective ² 0910.xxx	3
Approved Major Elective ² 0910.xxx	3
Technical Elective ¹	3
Total Credits	128

¹ Approval of advisor required

² Two electives from energy systems, and two from mechanical systems

B.S. Mechanical Engineering (Interim 2000)

First Year

Course	Credit Hours	Course	Credit Hours
Composition I	3	Computer Sci. & Prog.	4
Freshman Engineering Clinic I	3	Freshman Engineering Clinic II	3
Calculus I	4	Calculus II	4
General Education	3	General Education	3
Chemistry I	4	Physics I	4
Total Hours	17	Total Hours	18

Second Year

Course	Credit hours	Course	Credit Hours
Sophomore Engineering Clinic I	3	Sophomore Engineering Clinic II	1
Math for Eng. Analysis I	4	Math for Eng. Analysis II	4
Physics II	4	Engineering Materials I	2
Statics	2	Engineering Material II	2
Solid Mechanics	2	Dynamics	2
General Education	3	Vibrations	2
Total Hours	18	Public Speaking	3
		Total Hours	16

Third Year

Course	Credit Hours	Course	Credit Hours
Junior Engineering Clinic I	3	Junior Engineering Clinic II	3
Microeconomics	3	Quality & Reliab. in Des. & Mfg.	3
Engineering Thermodynamics I	2	Fluid Mechanics I	2
Engineering Thermodynamics II	2	Fluid Mechanics II	2
Mech. Des. & Syn.	4	Mechanical System Dynamics	3
Networks I	2	Transfer Processes I	2
Total Hours	16	Electronics I	2
		Total Hours	17

Fourth Year

Course	Credit Hours	Course	Credit Hours
Senior Engineering Clinic I	2	Senior Engineering Clinic II	2
Machine Design	2	Approved Major Elective ²	3
Science/Math Elective ¹	3	Approved Major Elective ²	3
Approved Major Elective ²	3	Technical Elective ¹	3
Approved Major Elective ²	3	General Education Course	3
Total Hours	13	Total Hours	14

Total Hours: 129

¹ Approval of advisor required

² Two electives from energy systems, and two from mechanical systems

B.S. Mechanical Engineering (2001)

First Year

Course	Credit Hours	Course	Credit Hours
Composition I	3	Computer Sci. & Prog.	4
Freshman Engineering Clinic I	3	Freshman Engineering Clinic II	3
Calculus I	4	Calculus II	4
General Education	3	General Education	3
Chemistry I	4	Physics I	4
Total Hours	17	Total Hours	18

Second Year

Course	Credit hours	Course	Credit Hours
Sophomore Engineering Clinic I	4	Sophomore Engineering Clinic II	4
Math for Eng. Analysis I	4	Math for Eng. Analysis II	4
Physics II	4	Engineering Materials I	2
Statics	2	Engineering Material II	2
Solid Mechanics	2	Dynamics	2
Total Hours	16	Vibrations	2
		Total Hours	16

Third Year

Course	Credit Hours	Course	Credit Hours
Junior Engineering Clinic I	2	Junior Engineering Clinic II	2
Microeconomics	3	Quality and Reliab. in Des.& Mfg.	3
Engineering Thermodynamics I	2	Fluid Mechanics I	2
Engineering Thermodynamics II	2	Fluid Mechanics II	2
Mech. Des. & Syn.	4	Machine Design	2
Networks I	2	Transfer Processes I	2
Total Hours	15	Electronics I	2
		Total Hours	15

Fourth Year

Course	Credit Hours	Course	Credit Hours
Senior Engineering Clinic I	2	Senior Engineering Clinic II	2
Mechanical System Dynamics	3	Microscale Systems	2
General Education Course	3	Approved Major Elective ²	3
Science/Math Elective ¹	3	Approved Major Elective ²	3
Approved Major Elective ²	3	Technical Elective ¹	3
Approved Major Elective ²	3	General Education Course	3
Total Hours	17	Total Hours	16

Total Hours: 130

¹ Approval of advisor required

² Two electives from energy systems, and two from mechanical systems

B.S. Mechanical Engineering (2002)

First Year

Course	Credit Hours	Course	Credit Hours
Composition I	3	Computer Sci. & Prog.	4
Freshman Engineering Clinic I	2	Freshman Engineering Clinic II	2
Calculus I	4	Calculus II	4
General Education	3	General Education	3
Chemistry I	4	Physics I	4
Total Hours	16	Total Hours	17

Second Year

Course	Credit hours	Course	Credit Hours
Sophomore Engineering Clinic I	4	Sophomore Engineering Clinic II	4
Math for Eng. Analysis I	4	Math for Eng. Analysis II	4
Physics II	4	Material Science	2
Statics	2	Manufacturing Processes	2
Solid Mechanics	2	Dynamics	2
		Machine Design	2
Total Hours	16	Total Hours	16

Third Year

Course	Credit Hours	Course	Credit Hours
Junior Engineering Clinic I	2	Junior Engineering Clinic II	2
Microeconomics	3	Quality and Reliab. in Des.& Mfg.	3
Engineering Thermodynamics I	2	Fluid Mechanics I	2
Engineering Thermodynamics II	2	Fluid Mechanics II	2
Mech. Des. & Syn.	4	Vibrations	2
Networks I	2	Transfer Processes I	2
		Electronics I	2
Total Hours	15	Total Hours	15

Fourth Year

Course	Credit Hours	Course	Credit Hours
Senior Engineering Clinic I	2	Senior Engineering Clinic II	2
Mechanical System Dynamics	3	Microscale Systems	2
General Education Course	3	Approved Major Elective ²	3
Science/Math Elective ¹	3	Approved Major Elective ²	3
Approved Major Elective ²	3	Technical Elective ¹	3
Approved Major Elective ²	3	General Education Course	3
Total Hours	17	Total Hours	16

Total Hours: 128

¹ Approval of advisor required

² Two electives from energy systems, and two from mechanical systems

B.S. Mechanical Engineering (2003 and beyond)

First Year

Course	Credit Hours	Course	Credit Hours
Composition I	3	Computer Sci. & Prog.	4
Freshman Engineering Clinic I	2	Freshman Engineering Clinic II	2
Calculus I	4	Calculus II	4
General Education	3	General Education	3
Adv. College Chemistry I	4	Physics I	4
Total Hours	16	Total Hours	17

Second Year

Course	Credit hours	Course	Credit Hours
Sophomore Engineering Clinic I	4	Sophomore Engineering Clinic II	4
Math for Eng. Analysis I	4	Math for Eng. Analysis II	4
Physics II	4	Material Science	2
Statics	2	Manufacturing Processes	2
Solid Mechanics	2	Dynamics	2
		Machine Design	2
Total Hours	16	Total Hours	16

Third Year

Course	Credit Hours	Course	Credit Hours
Junior Engineering Clinic I	2	Junior Engineering Clinic II	2
Microeconomics	3	Quality and Reliab. in Des.& Mfg.	3
Engineering Thermodynamics I	2	Fluid Mechanics I	2
Engineering Thermodynamics II	2	Fluid Mechanics II	2
Mech. Des. & Syn.	4	Vibrations	2
Networks I	2	Transfer Processes I	2
		Electronics I	2
Total Hours	15	Total Hours	15

Fourth Year

Course	Credit Hours	Course	Credit Hours
Senior Engineering Clinic I	2	Senior Engineering Clinic II	2
Mechanical System Dynamics	3	Microscale Systems	2
General Education Course	3	Approved Major Elective ²	3
Science/Math Elective ¹	3	Approved Major Elective ²	3
Approved Major Elective ²	3	Technical Elective ¹	3
Approved Major Elective ²	3	General Education Course	3
Total Hours	17	Total Hours	16

Total Hours: 128

¹ Approval of advisor required

² Two electives from energy systems, and two from mechanical systems