FORM A
College of Technology
Revised 11/4/02

PROPOSAL SUMMARY AND ROUTING FORM

Proposal Title: Parametric Modeling

Initiating Unit or Individual: Mechanical Design Department

Contact Person's Name: W. Koepf **e-mail:** koepfb@ferris.edu **phone:** 591-5040

Date or Semester of Proposal Implementation: SPRING 2008

- ☐ Group I - A – New degree/major or major, or redirection of a current offering
- ☐ Group I - B – New minors or concentrations
- ☐ Group II - A – Minor curriculum clean-up and course changes
- ☒ Group II - B – New Course
- ☐ Group III - Certificates
- ☐ Group IV – Off-Campus Programs

Group/Individual	Signature	Date	Vote/Action *
Program Faculty	William A Koepf Al Soon	2/20/07 2/21/07	2 Support ___ Support with Concerns ___ Not Support
Department Faculty	Thomas W. Keller	2/21/07	2 Support ___ Support with Concerns 1 Not Support
Department Head / Chair	Al Soon	2/21/07	✓ Support ___ Support with Concerns ___ Not Support
College Curriculum Committee	Ron McLean	3/13/07	8 Support ___ Support with Concerns 0 Not Support
Dean		3-27-07	___ Support ___ Support with Concerns ___ Not Support
University Curriculum Committee		3/29/07	✓ Support 8-0 ___ Support with Concerns ___ Not Support
Senate		4/2/07	✓ Support ___ Support with Concerns ___ Not Support
Academic Affairs		9/5/07	✓ Support ___ Support with Concerns ___ Not Support

* Support with Concerns or Not Support must include a list of concerns.

To be completed by Academic Affairs

President (Date Approved)	Board of Trustees (Date Approved)	President's Council (Date Approved)

1. Proposal Summary

This course has been developed upon request from the Manufacturig Departments Tooling Technology program for an introductory course in parametric 3-Dimensional modeling. It is intended to be a service course only and will not be introduced into the Product Design curriculum.

This is an introductory course in which the student will focus on techniques for developing 3 dimensional computer generated models. Students will develop skills using parametric based Computer Aided Design software. The student will receive exposure to basic 3-D modeling principles used to generate robust models in 3-D space.

2. Summary of All Course Action Required*

a. Newly Created Courses to FSU:

Prefix	Number	Title
PDET	122	Parametric Modeling

b. Courses to be Deleted From FSU Catalog:

Prefix	Number	Title

c. Existing Course(s) to be Modified:

Prefix	Number	Title

d. Addition of existing FSU courses to program

Prefix	Number	Title

e. **Removal of existing FSU courses from program**

Prefix	Number	Title

*Contact Senate Secretary or UCC Chair if spaces for additional courses are needed.

Notes on <u>Parametric Modeling</u> Proposal (PDET 122)

The proposed course was developed directly from PDET 322 which has been taught to MFGE students for the last 3 years as Juniors. The change was necessitated by the new MFGE 0-4 curriculum which moved this course from Fall 3rd year to Fall 1st year. The changes made to the course relative to PDET 322 consist of the following;

- Course number changed from 300 level to 100 level to accommodate first year students.

- Requirement to have a prior CAD course as a prerequisite was eliminated.

- The specific use of ProE software was revised to allow any 3D solid modeling software to be used for the course.

To maximize efficiency, it is our understanding that this course will also be also taken as part of a revised MFGT curriculum in which it will be used to replace a pre-existing experimental course, PDET 190. PDET 122 does not replace any other existing course in either the MFGE or MFGT curriculum. As a freshman level graphics course (not previously a part of either MFGT or MFGE requirements), it differs from the existing ETEC 140 in that PDET 122 contains only solid modeling instruction and does not include sketching or manual drafting instruction. In addition PDET 122 is a 2 credit hour course whereas ETEC 140 is 3 credit hours.

Based on the expressed requirements of the MFG faculty, I support this proposal.

R. Goosen
MDSN Chair

FORM B
Rev. 1/29/05

CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. Potential duplication of coursework is reason for consultation.

1. This form, with the first six blanks filled in, should be forwarded with the proposal to the chair/head of the affected department.
2. The affected department must respond within 20 calendar days of receipt of this form to insure inclusion in the final proposal. The completed form is returned to the initiator and inserted into the proposal. Failure to respond is interpreted as support for the proposal.
3. The Proposing Department must respond to any concerns by the affected department. This response will be in writing and be included in the proposal following the consultation form.

RE: Proposal Title Parametric Modeling - PDET122

Initiator(s): William A. Koepf

Proposal Contact: 5040 **Date Sent:** 2/21/07

Department: **Mechanical Design Department** **Campus Address:** **Swan 405**
(Please print)

Responding Department: **Manufacturing**

Chair/Head/Coordinator: JDC Date Returned: 2/22/07

Based upon department faculty review on 2/22/07 (date), we

- [x] Support the above proposal.
- [ ] Support the above proposal with the modifications and concerns listed below.
- [ ] Do not support the proposal for the reasons listed below.

Comment regarding the impact this proposal has on scheduling, room assignments, faculty load, and prerequisites for your department. Use additional pages, if necessary.

FORM C
Rev. 1/16/03

LIBRARY & INSTRUCTIONAL SERVICES CONSULTATION FORM

To be completed by the liaison librarian and approved by the Dean of LIS. All returned forms should be included in the proposal. **Library & Instructional Services must respond within 20 calendar days of receipt of this form to insure that the form is included in the final proposal.**

FAILURE TO RESPOND IS CONSIDERED AS SUPPORT OF THE CHANGE.

RE: Proposal Title: Parametric Modeling – PDET122

Projected number of students per year affected by proposed change: 30

Initiator(s): William A. Koepf

Proposal Contact: JHN 417 – Ext. 5040 Date Sent: 2/21/07

Department: Mechanical Design Campus Address: SWN 405
(Please print)

Liaison Librarian signature: Deborah McGowan **Date:** 2/23/07

Dean of LIS Signature: [signature] **Date Returned:** 2/23/07

Based upon our review on 2/23/07 (date), Library & Instructional Services concludes that:

☑ Library resources to support the proposed curriculum change are currently available.

☐ Additional Library resources are needed but can be obtained from current funds.

☐ Support, but significant additional Library funds/resources are required in the amount of $_____.

☐ Does not support the proposal for reasons listed below.

Comment regarding the impact this proposal will have on library resources, collection development, programs, etc. Use additional pages if necessary:

C.A.D.

NEW COURSE INFORMATION FORM

See Sample: Limit to One Page.

Course Identification:

Prefix:	Number	Title
PDET	122	Parametric Modeling

Course Description:

This is an introductory course in which the student will focus on techniques for developing 3 dimensional computer generated models. Students will develop skills using parametric based Computer Aided Design software. The student will receive exposure to basic 3-D modeling principles used to generate robust models in 3-D space.

Course Outcomes:

The course will include measurable outcomes that will demonstrate the students ability to create and assemble basic models and generate drawings from those models. The interpretation, development and designing of models in 3-D space will also be assessed.

Course Outline including Time Allocation:

The student will learn:		Hours	Hours
I.	Introduction to 3-D Modeling	1	0
A.	Review syllabus and grading, attendance policy		
B.	Parametric Design definition		
II.	Intro to Design software	1	3
A.	User interface – screen layout, toolbars, etc.		
III.	Capturing Design Intent	1	3
IV.	Solid Modeling Basics	1	3
A.	Protrusions, cuts, Holes		
V.	Solid Modeling features	2	6
A.	Rounds, Chamfers		
B.	Revolved features, Mirror, Copy		
VI.	Parent – Child relationships	1	3
A.	Relations, Model tree structure		
VII.	Engineering drawings – Bi-directional associativity	2	6
VIII.	Advanced Functions (Patterns, Blends, Sweeps & Shells)	2	6
IX.	Component assembly	2	6
X.	Student modeling project	2	6
XI.	Examinations	0	3
	TOTALS	15	45

CREATE A NEW COURSE

Course Date Entry Form

FORM F
Create Course
rev. 2/14/05

I. ACTION TO BE TAKEN: CREATE A NEW COURSE

Notes
1. Complete each item in section I and section II.
2. : If this course is to be used as a prerequisite for other university courses, Form Fs that reflect the prerequisite change must be submitted for those courses as well.

Term Effective: **a.** Semester [SP] **b.** Year [2008] See instructions.

II. PROPOSED FOR NEW COURSE: Complete all sections of this part through Prerequisites. See instructions in manual for further clarification.

a. Course Prefix [PDET] **b.** Number [122] **c.** Enter Contact Hours or check Indepemndent Study (X).
LECture [1] hr/week LAB [3] hr/week INDependent Study ☐
Practicum: [ ] hr/semester Seminar: [ ] hr/week

d. Full Course Title: [Parametric Modeling]

e. Abbreviated Course Title: [ ]. (Abbreviate only if necessary. Use Arabic numerals. Limit to 26 characters and spaces.)

f. Semester(s) Offered: [Fall & Winter] (See instructions for listing.) **g.** Max. Section Enrollment : [24]

Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

h. Type: ☐ Variable ☒ Fixed **i.** Maximum Credit Hours [2] **j.** Minimum Credit Hours [2]

k. Grade Method: Check (x) ☒ Normal Grading ☐ Credit/No Credit only (Pass/Fail)

m. May Be Repeated for Added Credit: Check (x) ☐ Yes ☒ No

n. Levels: Check (x) ☒ Undergraduate ☐ Graduate ☐ Professional

o. Does proposed new course replace an equivalent course? Check (x) ☐ Yes ☒ No
p. Equivalent course: Prefix [ ] Number [ ] See instructions on Replacement courses.

q. CATALOG DESCRIPTION – Limit to 75 words – PLEASE BE CONCISE.
[This is an introductory course in which the student will focus on techniques for developing 3 dimensional computer generated models. Students will develop skills using parametric based Computer Aided Design software. The student will receive exposure to basic 3-D modeling principles used to generate robust models in 3-D space.]

r. Prerequisites: (if no prerequisites, write "None") Limited to 60 spaces. [None].

UCC Chair Signature/Date: 3/29/07

Academic Affairs Approval Signature/Date: 4/2/07

To be completed by Academic Affairs Office: - Standard & Measures Coding and General Education Code

☐ Basic Skill (BS) ☐ General Education (GE) ☐ Occupational Education (OC) [ ] G.E. Codes

Office of the Registrar use ONLY

Date Received: _____ **Date Completed:** _____ **Entered: SIS [125 ___ 1D4 ___ 12R___, 131___]**

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
Mechanical Design Department

COURSE OUTLINE

COURSE TITLE: PDET 122 Parametric Modeling

COURSE DESCRIPTION: This is an introductory course in which the student will focus on techniques for developing 3 dimensional computer generated models. Students will develop skills using parametric based Computer Aided Design software. The student will receive exposure to basic 3-D modeling principles used to generate robust models in 3-D space.

CREDIT HOURS: Two Semester Hours

CONTACT HOURS: Lecture - 1 Hour/Week
Lab - 3 Hours/Week

PREREQUISITES: None

TEXTBOOK REQUIRED: TBA (dependent on modeling software used)

UNITS OF INSTRUCTION AND PLANNED TIME ALLOCATION:

The student will learn:	Lecture Hours	Lab Hours
I. Introduction to 3-D Modeling A. Review syllabus and grading, attendance policy B. Parametric Design definition C. Software Available – (ProE, Catia, UG, etc.) D. Intro to 3-D modeling (solids, surfaces, etc..)	1	0
II. Intro to Design software A. User interface – screen layout, toolbars, etc. B. File manipulation - saving, editing, erasing C. Creating direct features D. Sketching basic geometry	1	3
III. Capturing Design Intent A. sketching constraints vs. dimensions B. additional sketcher tools	1	3
IV. Solid Modeling Basics A. Protrusions, cuts B. Holes	1	3

V.	Solid Modeling features A. Rounds B. Chamfers C. Revolved features D. Mirror, Copy	2	6
VI.	Parent – Child relationships A. Relations B. Model tree structure	1	3
VII.	Engineering drawings – Bi-directional associativity	2	6
VIII.	Advanced Functions (Patterns, Blends, Sweeps & Shells)	2	6
IX.	Component assembly	2	6
X.	Student modeling project	2	6
XI.	Examinations	0	3
	TOTALS	15	45

MINIMUM STUDENT LAB ACTIVITIES: Various tutorial exercises and an individual modeling project.

CLASS POLICIES AND PROCEDURES: See Instructor handout.

Todd N Rose/FSU
02/21/2007 12:32 PM

To Richard F Goosen/FSU@Ferris
cc
bcc
Subject Re: PDET 122 Proposal

My vote is No.

I don't have a problem with the class.
My concern is the direction. We are making separate classes for all programs.
The idea is to have one class (Etec or eqiv.) to serve all. Also, what about the cost of all the different software packages. What direction are we going??

9-707
Neither Leonard nor Paula have had a response to the concern expressed by Todd Rose.