**Academic Senate**
Revised Agenda for the Meeting of
April 6, 2010
**West Campus Community Center**
**10:00 am**

1. Call to Order

2. Approval of Minutes
   A. March 2, 2010

3. Open Forum

4. Reports
   A. Senate President – Richard Griffin
   B. Senate Vice President – Michael Berghoef
   C. Senate Secretary – Sandy Alspach
   D. Senate Election Update – Kimberly Beistle

5. Committee Reports
   A. General Education Task Force – Don Flickinger
   B. HLC Update – Roberta Teahen
   C. University Curriculum Committee – Leonard Johnson

   Roll Call

6. New Business
   A. Delete Degree – AAS Plastics Technology
   B. Delete Degree – AAS Rubber Technology
   C. New Degree – "Common Core" PPET AAS Program

8. Announcements

   A. FSU President - David Eisler
   B. Provost – Fritz Erickson
   C. Senate President – Richard Griffin
   D. Student Government – Claire Gould, President

9. Open Forum

10. Adjournment

**DRAFT**
**Ferris State University**
**Academic Senate Meeting**
**March 2, 2010**
**West Campus Community Center**

**Minutes**

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| **I.** | **Action Items** | |
| | A. | Without objections, the Agenda was changed to move FSU President Eisler's remarks, to accommodate his introduction of a guest speaker on campus at 11:00. |
| | B. | Without objections, the Minutes of the February meeting were approved. |
| | C. | Sen. Rewers, chair of the Charter Review Committee, reported that 139 faculty had voted on the Charter revisions: yes, 122; no, 12; and abstain, 5. |
| | D. | Moved (Sen. Alspach), seconded (Sen. Heaphy) and passed unanimously to terminate the Bachelor of Science degree in Management. |
| | E. | Moved (Sen. Alspach), seconded (Sen. Heaphy) and passed unanimously to create a Bachelor of Science degree in Energy Systems Engineering. |
| | F. | Moved (Sen. Beistle), seconded (Sen. Heaphy) and passed unanimously to create a Bachelor of Science degree in Allied Health. |
| | G. | Moved (Sen. Lashaway-Bokina), seconded (Sen. Heaphy) and passed unanimously to reduce credits for the Masters of Education: Curriculum and Instruction Reading Endorsement. |
| | H. | Moved (Sen. Alspach), seconded (Sen. Heaphy) and passed unanimously to revise the Business, Management, Marketing and Technology Teaching Minor. |
| | I. | Moved (Sen. Alspach), seconded (Sen. Heaphy) and passed with one no vote to terminate the Interdisciplinary Humanities minor. |

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| **II.** | **Open Forum** | |
| | A. | Sen. Skrocki circulated a handout announcing a bone marrow donor registration drive, sponsored by students in the Health Care Systems Administration capstone course and HCSA alumni. |
| | B. | Sen. Lashaway-Bokina announced a recruitment program for Recognized Student Organizations (RSOs) at Ferris to be held on April 16 in Wink Arena for sophomore and junior students at area high schools, sponsored by the Association of Future Educators and Kappa Delta Pi. |
| | C. | Pres. Griffin encouraged Senators to attend the presentation by Naomi Tutu at 11:00 in Williams Auditorium, sponsored by the Globalization Initiative and other campus agencies. |
| | D. | Sec'y. Alspach encouraged Senators to attend the presentation by Leonard Zeskind at 7:00 pm on Thursday, March 4 in Williams Auditorium, sponsored by the Political Engagement Project (PEP) and other campus agencies. |
| | E. | Assoc. Dean McKean announced the Michigan Energy Conference on April 7 and 8 at the Holiday Inn Conference Center. He especially invited Senators to attend the awards for the posters and the evening speakers on Wednesday. |

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| **III.** | **FSU President Eisler offered remarks.** | |
| | A. | He invited Senators to the open sessions of the Board of Trustees' meetings at 10:00 and 1:00 on Friday at the Holiday Inn. |
| | B. | He noted that Michigan Senator Andy Dillon had announced his candidacy for the Governorship yesterday at Kendall School of Art and Design in Grand Rapids. |
| | C. | He summarized his current legislative focus on the TIPS program. He observed that 700 Ferris students would be hurt by a reduction in this financial aid program. |
| | D. | He praised the Globalization Initiative as doing "an extraordinary thing" by bringing speakers like Ms Tutu to campus. He excused himself to escort her to Williams to prepare for her |

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| | | presentation. |

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| **IV.** | **Reports** | | |
| | A. | Pres. Griffin encouraged Senators to attend and bring their students to the presentation on Tuesday, March 30 at 7:00 pm by Dolores Huerta, farm worker organizer with Cesar Chavez. | |
| | B. | VP Berghoef made several reports. | |
| | | 1. | He congratulated Senators Prakasam and Topcu and the rest of the Globalization Initiative team and their other collaborative partners for bringing in the Consul General of Turkey last month. This was a highly successful event with a room packed full of students and faculty. He added his congratulations to the GI team and all involved in today's event with Naomi Tutu. He observed that it is wonderful to have these kinds of collaborative events happening on a regular basis on our campus. |
| | | 2. | He shared an update from the Professional Development Committee. The PDC has added a third grant cycle Sept. 15, in addition to the upcoming Mar. 22 and past Nov. 16 deadlines. The PDC feels this may better serve the varying needs and schedules of faculty. He noted that the Faculty Research Committee is reviewing a similar change for the coming year. He encouraged Senators to consult with the committees they sit on about these kinds of modifications when they are deemed to be improvements. He noted that this encouragement is in keeping with the Senate Executive Committee's empowering committees and their chairs to keep their agenda and procedures relevant. |
| | | 3. | He is sending out a summary of all committee seats that will be opening in the fall to help facilitate the process of getting and keeping committees as close to full as possible as early as possible for the next year. He asked Senators to remind their committees to continue grooming committee leadership for next fall, whether that means designating a chair-elect or a co-chair. |
| | C. | Sec'y. Alspach announced that a bus of Ferris students, faculty and staff will be driving to Grand Rapids on Wednesday, Mar. 31 to participate in the Chavez March. The bus is sponsored by the Office of Multicultural Student Services and other campus agencies, including the Academic Service Learning (ASL) project. | |
| | D. | Sen. Rewers reported the final vote of the faculty regarding the revisions suggested by the Charter Revision Committee. 139 faculty members voted: yes, 122; no, 12; and abstain, 5. Pres. Griffin thanked the Charter Revision Committee (Senators Rewers, chair; Isler, Skrocki and Sun) for their service. | |
| | E. | Sen. Beistle, chair of the Elections Committee, reminded Senators that the deadline for nominations for open seats on the Senate is March 5. She encouraged Senators to considering running for re-election and to solicit candidates from their colleges. | |

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| **V.** | **Committee Reports** | | |
| | A. | Assistant VP Flickinger reported on behalf of the General Education Task Force. | |
| | | 1. | 6 members of the GETF attended the national General Education Conference in Seattle; attended by 700 people. They learned that Ferris has a good Gen. Ed. superstructure compared to other institutions. They were encouraged to survey students as part of their data collection. |
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| | B. | Associate VP Cairns and wordsmith Sandy Balkema reported on behalf of the Higher Learning Commission team. | |
| | | 1. | Cairns provided a handout updating the Senate on Financial Assistance for Students over the last two academic years. He described this data as a 'snapshot' requested by the HLC. |
| | | | Sen. Sun questioned the last figure titled 'tuition discount rate'. Cairns offered to investigate and provide clarification. [This term is used by the HLC to describe the percentage of costs expected to be borne by the student after other funding mechanisms had been implemented.] |

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| | | 2. | Balkema provided copies of the February HLC Self Study Update. |
| | | | She noted that the financial snapshot is a new report required by the HLC, so it is a 'work in progress' for the committee. |
| | | | She reported that she has collected all the chapters required for the report and she is "looking now to fill in holes". Reviewers have been invited to contribute and network with others. |
| | | | The HLC Report will be sent to the Review Team in late December in preparation for the site visit team's visit in April, 2011. She invited Senators to communicate with any of the reviewers listed on the Update. |
| | | | |
| | C. | Leonard Johnson, chair of the University Curriculum Committee, provided a report of UCC actions for February. | |

| **Roll Call** | |
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| Senators Present | Abbasabadi, Alspach, Beistle, Berghoef, Brandly, Colley, Compton, Drake, Dakkuri, Griffin, Hanna, Heaphy, Isler, Jewett, Klatt, Lashaway Bokina, Liszewski, Lovsted, Lukusa, Luplow, Nash, Purvis, Rewers, Sanderson, Skrocki, Smith, Sun, Thapa, Topcu, Wagenheim |
| Senators Absent with Cause | Boncher, Cline, DeKoster, McLean, Prakasam, Taylor |
| Senators Absent | D. Haneline, Jorsch, Speirs |
| Ex Officio and Guests | Eisler, Erickson, E. Haneline, Nicol, Oldfield, Ing, Johnson, McKean, Schmidt, Steenstra, Wooden |

| **VI.** | **New Business** | |
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| | A. | Moved (Sen. Alspach) and seconded (Sen. Heaphy) to terminate the Management B.S. program. |
| | | Management Dept. Head David Steenstra explained the request to close the program; it has few students and most of the courses continue in the Business Administration program. |
| | | The motion passed unanimously. |
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| | B. | Moved (Sen. Alspach) and seconded (Sen. Heaphy) to support a new degree in Energy Systems Engineering. |
| | | Director Tom Hollen described the need for energy engineers. He noted that community colleges provide degrees for energy technicians and energy research is conducted at Tier I institutions in the state. But no one has a plan to train engineers to install and maintain energy equipment. He argued that, by receiving ABET accreditation in engineering, Ferris would keep students in Michigan. |
| | | Sen. Heaphy asked how this degree would interface with the existing Energy sustainability certificate. |
| | | Hollen explained that the new degree would not include LEEDS certification. However, conversation is in process with the College of Business to interface the CoB certificate with this new degree. |
| | | Sen. Heaphy asked if this degree is designed for undergraduates. |
| | | Dean Oldfield responded that any student could take the certificate in the Energy program |
| | | Sen. Thapa asked if this degree would seek ABET accreditation. |
| | | Hollen answered 'yes', although ABET currently doesn't have certification specifically in Energy, there is a division of ABET that could accredit the program. |
| | | Sen. Dakkuri observed that this is the second program in Engineering Technology that has come to the Senate this year. He wondered what programs were being eliminated to "make room" for these new programs. |
| | | Oldfield explained that the College will be redirecting, where feasible, gradually. The present plan is to divert S&E budget to the new ENGY program. |

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| | | Sen. Hanna observed that the proposal only includes 4 new courses specifically in ENGY. He asked where the 'faculty champion' for this program was. |
| | | Hollen said that new faculty would be hired. |
| | | Hanna asked if there were students for this program. |
| | | Hollen identified 4 students currently in higher level physics and chemistry required for the new program. He noted that, as the student revenue grew through this program, new courses could be phased in. The proposal includes courses without the ENGY prefix now. He observed that other new degrees had grown in a similar manner from existing courses. |
| | | Hanna asked if Hollen intends to modify courses to meet the proposal's outcomes. Specifically, he questioned if the current Survey Engineering course included in the proposal, which carries General Education credit, would be continued, since the Humanities Department appeared reluctant to support offering an ethics course specific to a technology program. |
| | | Sen. Thapa, who has taught the SURE course in question in partnership with Humanities, explained that this consultation was continuing. |
| | | The motion passed with a few 'no' votes. |
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| | C. | Moved (Sen. Beistle) and seconded (Sen. Heaphy) to support a Bachelor of Science in Allied Health degree. |
| | | Dean Haneline explained that there was demand from students currently enrolled in Associate degrees who wanted Bachelor degrees but did not want to complete the Health Care Systems Administration degree. She said she has 250 students ready to enroll, faculty in place, and only needs two new courses to create the degree. |
| | | The motion passed unanimously. |
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| | D. | Moved (Sen. Lashaway-Bokina) and seconded (Sen. Heaphy) to support the reduction in credits of the M. Ed. in Curriculum and Instruction, Reading Endorsement. |
| | | Director Ing explained the request is aimed at making Ferris more competitive, to regenerate interest in this degree. The proposal does not change any standards for the degree. |
| | | Sen. Heaphy asked if the University Graduate and Professional Council had been consulted. |
| | | Lashaway-Bokina reported that the UGPC was meeting today to discuss the proposal. |
| | | Leonard Johnson said that he had received a response from UGPC indicating that an electronic vote had been successfully taken. |
| | | The motion passed unanimously. |
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| | E. | Moved (Sen. Alspach) and seconded (Sen. Heaphy) to support the redirection in the Business, Management, Marketing & Technology Teaching Minor. |
| | | Director Ing described the proposal as a collaboration between requirements set by the Michigan Department of Education and the College of Business. |
| | | Sen. Heaphy asked how many students were in the program. |
| | | Ing explained that they had to close the program for 2 years because it doesn't meet Dept. of Education criteria. They want to re-advertise the program; addressing some interest from current teachers at technical schools. |
| | | Sen. Hanna asked if this proposal was consistent with recommendations made by the Academic Program Review Council. |
| | | Ing affirmed that the proposal met the APRC recommendation to build secondary degree programs. |
| | | Sen. Dakkuri asked why the proposal did not include Education courses. |
| | | Ing explained that this proposal only addressed the content major part of the degree. |
| | | The motion passed unanimously. |
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| | F. | Moved (Sen. Alspach) and seconded (Sen. Heaphy) to terminate the Interdisciplinary Humanities minor. |
| | | Sen. Hanna expressed concern that this action was inconsistent with General Education, which purports to provide a broad experience for students. |

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| | | Sen. Alspach explained that this proposal was not a General Education issue; it focuses on a minor program. The program has had only one or two students since its inception. There are other, more specific, minors available in the Humanities Department, like Philosophy, that attract students. |
| | | The motion passed with one "no" vote. |

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| **VII.** | **Announcements** | | |
| | A. | Provost Erickson offered remarks and answered questions. | |
| | | 1. | His goal to reduce all budgets in Academic Affairs by 3% has been met, so there will be no current need to implement the 5% reductions he had asked Deans to identify. He has moved $2.3 million out of the Provost's Office to the Colleges, to empower them to make budget decisions at their level. But, he cautioned, colleges and departments can no longer end the fiscal year in the red and count on a bail-out from the Provost's Office. |
| | | 2. | He reported that the Higher Learning Commission visit for the Doctorate in Community College Leadership program was a great success: he described the review team as 'aglow'. In particular, the team said that they thought the Ferris program was better than the exemplar program at the University of Texas-Austin. |
| | | 3. | He thanked Bruce Dilg and all of those involved with the Festival of the Arts. |
| | | 4. | He congratulated the Debate Team for their second place sweepstakes award at the Eastern Michigan University tournament. |
| | | 5. | He thanked Donna Smith, David Schrock, Brooke Moore and Jill Jepsen for presenting assemblies called "Communication Counts!" to area schools. At the assembly this team looks at student conflicts, including interactions on social media like Facebook and bullying. |
| | | 6. | He thanked all who had donated to Haiti Relief, especially commending the American Welding Society at Ferris who raised $800 from students, staff and faculty. |
| | | 7. | He thanked the Michigan College of Optometry for their partnership with Baldwin Teen Health Center and the Baldwin Community Schools. They recently opened a school-based participatory eye clinic with the Baldwin Community Schools. Dr. Paula Smith saw her first patients in what he believes is the first school-based eye clinic that offers comprehensive care for students in the state of Michigan. |
| | | | |
| | | | Sen. Sun asked for further explanation of the budgeting procedures. |
| | | | The Provost explained that the 3% reductions from all Colleges actually produced a net result of increasing College budgets. He explained that the previous budgeting model kept resources in the Provost's office until the end of the fiscal year, so Colleges were used to operating in the red and then appealing to Academic Affairs. He thinks that it seems to be a better model to put the money in the hands of the Colleges now, but holding them responsible to spend within their budgets. With the 3% reductions, he will be reducing some College budgets, but not reducing others; reductions will not be "across the board". |
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| | B. | Pres. Griffin thanked all those who supported Walt, the 'cowboy poet', during the Festival of the Arts. | |

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| **VIII.** | **Open Forum** | |
| | A. | Sen. Dakkuri asked the Charter Revision Committee how the votes were tallied. |
| | | Sen. Rewers explained that emailed ballots were printed and counted in the Senate office. |
| | | Sen. Dakkuri expressed concern that the ballots were "open", rather than "secret". He urged the Senate not to use this system for the election of Senators. |
| | | Administrative Assistant Hadley explained that the elections would be conducted through the Student Government, as they have been the last several years. |
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| | B. | Leonard Johnson announced that SPARC will meet March 26 at 3:00 in IRC 109. As the new chair, he encourages Senators to participate in the Strategic Planning process. He thanked John Schmidt for attending the last meeting. The council will be discussing changing the name of the group to more accurately reflect their continuing role in advising Pres. Eisler. |

Sandy Alspach
Senate Secretary

Richard Griffin
Senate President

**TO:** All Persons Represented by the Academic Senate

**FROM:** Kim Beistle, Senate Elections Chair

**SUBJECT:** Senate Election Results

**DATE:** **March 25, 2010**

The following people from the indicated colleges and librarian/counselor units were elected to the Senate:

| | |
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| **Allied Health Sciences** | Roger Daugherty |
| **Arts & Sciences** | Paul Klatt<br>Cami Sanderson<br>Ali Abbasabadi<br>George Nagel<br>Kent Sun |
| **Business** | Mark Brandly<br>David Marion<br>Teresa Cook |
| **Education and Human Services** | Nancy Lashaway-Bokina |
| **Pharmacy** | Tracey Boncher<br>Kim Hancock |
| **Technology** | Chuck Drake<br>Matt McNulty<br>David Hanna<br>Tie for the fourth seat – Dan Wanick<br>Gary Maike |
| **Librarians/Counselors** | Tom Liszewski |
| **University College** | Ann Marie Gillespie |
| **Optometry** | James Nash |
| **College of Professional and Technical Studies** | Joseph Joyce |

The tally on the following pages indicates the number of votes received by each candidate and write-in candidates.

On behalf of the Academic Senate, we appreciate and thank all those who assisted with this election.

| **ALLIED HEALTH – 1 vacancy** | **Total Votes** |
|---|---|
| Denise Hoisington | 4 |
| Roger Daugherty | 12 |
| | |
| | |
| **Write-ins:** | 1 |
| Lisa Wall | 1 |
| Marci Parry | |
| | |
| **ARTS & SCIENCES – 5 vacancies** | |
| Paul Klatt | 30 |
| Cami Sanderson | 32 |
| Ali Abbasabadi | 31 |
| George Nagel | 26 |
| Kent Sun | 34 |
| | |
| **Write-ins:** | |
| Colleen Partigianoni | 1 |
| Donald Roy | 1 |
| James Nystrom | 2 |
| Janice Weaver | 2 |
| Jennifer Johnson | 1 |
| Sandy Balkema | 1 |
| Scott Herron | 1 |
| Katherine LaPietra | 1 |
| Robert Friar | 1 |
| | |
| **COUNSELORS/LIBRARIANS – 1 vacancy** | |
| Tom Liszewski | 2 |
| | |
| **BUSINESS – 3 vacancies** | |
| Mark Brandly | 22 |
| Barbara Ciaramitaro | 10 |
| Anita Fagerman | 8 |
| David Marion | 15 |
| Teresa Cook | 22 |
| | |
| **Write-ins:** | |
| Mark Brandly | 2 |
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| **EDUCATION – 1 vacancy** | |
| Nancy Lashaway-Bokina | 8 |
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| **Write-ins:** | |
| Fred Wyman | 1 |
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| **PHARMACY – 2 vacancies** | |
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| **Write-ins:** | |
| Curtis Smith | 1 |
| Kim Hancock | 13 |
| John Jameson | 1 |
| Tracey Boncher | 11 |
| | |
| **TECHNOLOGY – 4 vacancies** | |
| Chuck Drake | 28 |
| Gareth B. Todd | 12 |
| Matt McNulty | 15 |
| David Hanna | 24 |
| Dan Wanick | 13 |
| Gary Maike | 13 |
| | |
| **Write-ins:** | |
| William Papo | 2 |
| Blaine Danley | 1 |
| Gary Ovans | 1 |
| Keith Cripe | 1 |
| Mike Hachman | 1 |
| Russ Leonard | 1 |
| | |
| **UNIVERSITY COLLEGE – 1 vacancy** | |
| Ann Marie Gillespie | 4 |
| | |
| **OPTOMETRY – 1 vacancy** | |
| | |
| **Write-ins:** | |
| James Nash | 11 |
| | |
| **COLLEGE OF PROFESSIONAL AND TECHNICAL STUDIES – 1 vacancy** | |
| Joseph Joyce | 6 |
| | |

# University Curriculum Committee

## SENATE REPORT

April 6, 2010

**UCC actions since the last Senate meeting follow (as of 3/30/10)**:

| | TYPE | TITLE | UCC ACTION | COMMENTS |
|---|---|---|---|---|
| A. | **FOR SENATE ACTION:** | | | |
| 1. | New Degree | "Common Core" – PPET AAS | Approved, 8-0 | |
| 2. | Elimination of Program | Delete Plastics Technology AAS | Approved, 8-0 | |
| 3. | Elimination of Program | Delete Rubber Technology AAS | Approved, 8-0 | |
| B. | **FOR SENATE INFORMATION:** | | | |
| 1. | M.C.C. | Cleanup for the Manufacturing Operations Management Certificate | Approved, 6-0 via EVote | |
| 2. | M.C.C. | GPA req. for App. to the Workplace | Approved, 7-0-1 | |
| 3. | M.C.C. | GPA req. for Comm. Minor | Approved, 7-0-1 | |
| 4. | M.C.C. | Revised Checksheet for AA in AS | Approved, 7-0-1 | |
| 5. | M.C.C. | Revise Checksheet for BA in Comm | Approved, 7-0-1 | |
| 6. | M.C.C. | Revise Checksheet for Speech Tch | Approved, 7-0-1 | |
| 7. | M.C.C. | 1 ARCH and 3 FMAN classes | Approved, 8-0 | |
| 8. | M.C.C. | JTPC – program revisions | Approved, 8-0 | |
| 9. | M.C.C. | TPC revisions | Approved, 6-0 via EVote | |
| 10. | M.C.C. | Reactivate CAHS 208 | Approved, 7-0 | |
| 11. | M.C.C. | MBA: Create sustainability, etc… | Approved, 7-0 | |
| 12. | M.C.C. | Changes for HEQT & HSET | Approved, 7-0 | |

# University Curriculum Committee

| | TYPE | TITLE | UCC ACTION | COMMENTS |
|---|---|---|---|---|
| 13. | M.C.C. | HR Program, New Course, etc. | Approved, 7-0 | |
| 14. | M.C.C. | Revisions to English/Pr.Wr. Minor | Approved, 7-0 pending | Pending clarification of the vote. (What exactly was the "1" in the 14-1 vote?).<br><br>ENGL 323 and ENGL 499 will be added to item 2d on the Form A.<br><br>Revise proposed checksheet to include all prerequisites, and remove the "choose one" choice, as either ENGL 311 or ENGL 321 must be taken before ENGL 380. |
| 15. | M.C.C. | Prereq. Change: ENGL 411 & 499 | Approved, 7-0 pending | ENGL 411 and ENGL 499 to 2c on Form A. Remove "from D- to C" on the Form F |
| 16. | M.C.C. | Revisions to Tech. Writing Cert. | Approved, 7-0 pending | Pending clarification of the vote. (What exactly was the "1" in the 14-1 vote?).<br><br>Add ENGL 323 to 2d on the Form A.<br><br>Technically, as was pointed out by B. Ross, the "c" in certificate in the proposal title ought to be capitalized.<br><br>Revise proposed checksheet to include all prerequisites. |
| 17. | New Course | MISM/MMBA | Leonard will clarify the intentions of the proposer, will communicate to UCC and will likely ask for an Email vote. | Pick one: Proposers may either "reactivate" MISM 640 in which case the course description must remain the same, OR create a new course with a new number (641, 642, or 643 can work) that will allow for a change to the course description. (Paula will correct the college and department codes on Form F). |
| 18. | M.C.C. | Computer Information System – Associate Degree | Approved, 6-0 pending. | Pending receipt of a revised Form A. Summary of all Course Action Required must be completed on the Form A. |

# University Curriculum Committee

**Proposal Submitting Procedure**
Originals of each proposal leaving a college should be forwarded to Senate Secretary, Paula Hadley, CSS 208A. Proposals should be in her office by 4 PM on Wednesdays to allow time for recording, distribution, and consideration at the next committee meeting (Mondays). Contact Paula at x3626 if delivery will be close to this deadline.

**Membership for 2009-2010**
as of September 24, 2009

| Name | Mail | Phone | College | E-mail |
|---|---|---|---|---|
| Sandy Alspach | JOH-119 | 2779 | Arts & Science | alspachs@ferris.edu |
| Tracey Boncher | PHR-302A | 2283 | College of Pharmacy | bonchert@ferris.edu |
| Terry Doyle | IRC-134 | 2808 | University College | doyled@ferris.edu |
| Leonard Johnson, Chair | BIS 412 | 2134 | Education & Human Services | johnsole@ferris.edu |
| Ron Mehringer | SWN-405 | 3064 | College of Technology | mehringerr@ferris.edu |
| Kristin Motz | FLT-140A | 3625 | Librarians/Counselors | motzk@ferris.edu |
| Hal Palmer | BUS-352 | 2470 | College of Business | palmerh@ferris.edu |
| Andrew Purvis | FSU-GR | 3977 | College of Professional and Technical Studies | purvisr@ferris.edu |
| Barbara Ross | VFS-303 | 2317 | Allied Health | rossb@ferris.edu |
| TBA | | | College of Optometry | |
| Donald Flickinger | CSS 310 | 2553 | Ex-Officio, Academic Affairs | flickingerd@ferris.edu |
| Joanne Gerst | CSS 201 | 2794 | Ex-Officio, Records | gerstj@ferris.edu |

**FORM A**
**College of Engineering Technology**

Revised 05/08/2009

# PROPOSAL SUMMARY AND ROUTING FORM

## Proposal Title: Delete Plastics Technology AAS Degree Program

**Initiating Unit or Individual: Schult/Langell**
**Contact Person's Name: Schult/Langell e-mail: schultl@ferris.edu, langelll@ferris.edu**
**phone: Schult – ext 2650, Langell – ext 5260**
**Date or Term of Proposal Implementation: 10F**

**X Group I - A – New degree/major or major, redirection of a current offering, or elimination of a degree, major or minor**

☐ **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 | Larry L Schult | 3/15/10 | 7 Support<br>___ Support with Concerns<br>0 Not Support |
| Department Faculty | Larry L Schult | 3/15/10 | 7 Support<br>___ Support with Concerns<br>0 Not Support |
| Department Head / Chair | | | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| College Curriculum Committee | Roy McKeen | 3/18/10 | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| Dean | Steven L Hoffa | 3/18/10 | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| University Curriculum Committee | Ronald Nowaczyk | 3/22/10 | ✓ Support 7-0<br>___ Support with Concerns<br>___ Not Support |
| Senate | | | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| Academic Affairs | | | ___ Support<br>___ Support with Concerns<br>___ Not Support |

* Support with Concerns or Not Support must include a list of specific concerns. Votes must be shown for faculty groups. Administrators check appropriate action taken.

**To be completed by Academic Affairs**

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

## 1. Proposal Summary

Drop the existing Plastics AAS Degree Program. This is being done to allow the creation of a common core AAS Degree called the Plastics and Polymer Engineering Technology AAS Degree. The new degree will better serve the students by focusing them on the study of polymeric materials by combing the current Rubber Technology and Plastics Technology AAS Degrees. This new degree also better serves the plastics and rubber industries and provides graduates the ability to obtain a job in multiple disciplines or to pursue the BS Degree in Plastics Engineering Technology or the BS Degree in Rubber Engineering Technology.

For the sake of admission, the program will be closed to new incoming students when the new PPET Program is approved. The new program is expected to begin Spring Semester of 2011. Please refer to the attached Transition Plan and Timeline which both indicate the timing for the implementation and deletion of the courses and programs. First year students will be advised to transfer into the new program for Spring Semester of 2011. All courses previously taken by these students in their fall semester will apply to the new degree.

## 2. Summary of All Course Action Required*

a. Newly Created Courses to FSU:
Prefix Number Title

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

3. **Summary of All Consultations**

| Form Sent (B or C) | Date Sent | Responding Dept. | Date Received & by Whom |
|---|---|---|---|
| Form B | 12/2/09 | Manufacturing | |
| Form B | 12/2/09 | Mathematics | |
| Form B | 12/2/09 | Physical Sciences | |
| Form C | 12/2/09 | Library | |

4. **Will External Accreditation be Sought? (For new programs or certificates only)**

_____ Yes _____X_____ No

**If yes, name the organization involved with accreditation for this program.**

5. **Program Checksheets affected by this proposal.**

Plastics Technology AAS – To Be Deleted
Plastics Engineering Technology BS – Change Entrance Prerequisite to PPET (New Program)

# College of Engineering Technology

March 18th, 2010

Deletion of the AAS in Plastics Technology and the AAS in Rubber Technology was approved through the program, school, and college committees with the original proposal to create the AAS in Plastics and Polymer Engineering Technology (PPET). The AAS in PPET will serve to replace both of the older AAS degrees.

This proposal was created afterward in order to separate out the AAS program deletions from the proposal to create the new AAS PPET degree.

Ron McKean, Associate Dean and Chair of the CET Curriculum Committee

FERRIS STATE UNIVERSITY

Imagine More

# Associate in Applied Science in Plastics Technology

## Course Sequence Guide

| | | | |
|---|---|---|---|
| Student: | | | |
| Email: | | ID: | |
| Advisor: | | Ph: | |

| YEAR 1 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 110 | Intro to Plastics Technology (PLTT/RUBT Student) | 3 | |
| MFGT | 150 | Manufacturing Processes | 2 | |
| ENGL | 150 | English 1 (ACT 14 or ENGL 074) | 3 | |
| MATH | 116 | Intermediate Algebra & Numerical Trig (ACT19 or MATH 110) | 4 | |
| | | Social Awareness Elective | 3 | |
| FSUS | 100 | FSU Seminar | 1 | |
| | | Total | 16 | |

| YEAR 1 - SUMMER SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 193 | Industrial Internship | 4 | |
| | | Total | 4 | |

| YEAR 2 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 211 | Plastics Processing 2 | 5 | |
| EEET | 201 | Electrical Fundamentals (ACT 24 or MATH 116) | 3 | |
| ENGL | 250 | English 2 (ENGL 150) | 3 | |
| CHEM | 121 | General Chemistry 1 (CHEM 103 or H/S CHEM) | 5 | |
| | | Cultural Enrichment Elective | 3 | |
| | | Total | 19 | |

| YEAR 1 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 121 | Plastics Processing 1 (PLTS 110) | 4 | |
| ETEC | 140 | Engineering Graphics | 3 | |
| MATH | 126 | Algebra & Analytical Trig (C- or Better MATH 116) | 4 | |
| PHYS | 211 | Introductory Physics 1 (MATH 116 or 120 or 26 ACT | 4 | |
| | | Total | 15 | |

| YEAR 2 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 212 | Plts. Prdt. & Tool Design 1 (PLTS 110, ETEC 140) | 5 | |
| PLTS | 223 | Plts Testing & Properties (MATH 116, CHEM 121) | 5 | |
| MECH | 250 | Fluid Power w/Controls (MATH 116) | 2 | |
| CHEM | 211 | Fund. Organic/Polymer Chemistry (C- in CHEM 121) | 4 | |
| | | Total | 16 | |

**CURRENT CHECKSHEET**

Contact the Plastics and Rubber Department for more information!
Phone: 231-591-2640
Email:Plastics&Rubber@ferris.edu
www.ferris.edu/piru

09F
1/29/2010

# Plastics and Polymer Engineering Technology
# Curriculum Transition Plan

The transition from having 2 separate AAS Degrees (1 Rubber Technology and 1 Plastics Technology) to having a common, polymer material based 2 year core of classes will happen in 2 yearly stages. The method is explained below.

Incoming freshmen (whether they have identified rubber or plastics as their curriculum choice) will all be scheduled for the following course in fall semester (2010): PLTS110. There is only 1 entry point to the program(s) and that is in the fall semester only. RUBR110 will not be offered to the students and will be deleted the end of spring semester 2011. For spring semester, the students will all be scheduled for PPET120 and PPET127. Both PLTS121 and RUBR121 will not be offered and those courses will be deleted by the end of spring semester, 2011. Incoming freshmen for the fall 2011 semester will be scheduled into the two new curriculum courses – PPET100 and PPET115. They will continue on in the new curriculum.

Due to the fact that there is only 1 entry point into both the Plastics and Rubber AAS Degree Programs, there shouldn't be existing students caught up between the old and new curriculums. If that would occur, the program will not delete the classes from the old curriculums until an entire year has transpired or all students have completed the requirements.

The existing (old curriculum) students who have finished the first year (their freshmen year) in 2009/2010 will continue with the old curriculum (PLTS211, RUBR211 & RUBR212) in the fall and spring semesters (PLTS212 & PLTS223, RUBR223) of 2010/2011. Those courses will still exist for that year (2010/2011). They will not be deleted until the end of spring semester 2012 in case there is a need for those courses for any reason. Enrollment will cease by fall semester 2012 into any portion of the old curriculum.

By the 2011/2012 school year, the entire new curriculum would be implemented, the freshmen from 2010/2011 would be into their sophomore year, and the existing courses will be replaced by the new courses (PPET212, Major Elective, PPET211, and PPET223). All new students will be exiting the new common AAS Degree by the end of spring 2012.

Throughout the transition, any necessary exceptions and equivalencies will be given to the students to make the transition as transparent to them as possible.

Following the completion of the first two years, the student will have completed enough coursework to be awarded an Associate Degree in Plastics and Polymer Engineering Technology. However, the attainment of or issuance of the degree is not necessary for acceptance into either the Plastics Engineering Technology BS Degree or Rubber Engineering Technology BS Degree Programs. It is an option for the student who does not wish to pursue a bachelorette degree. Those students going on will have a choice between the Plastics Engineering Technology BS Degree Program or the Rubber Engineering Technology BS Degree Program.

*Summary Of Transition:*

| | |
|---|---|
| Fall 2010 - | New Freshmen take PLTS110 (the only old curriculum course they will get) |
| | Sophomores already in old curriculum for a year continue/finish old curriculum |
| Spring 2011 - | New Freshmen transition to new curriculum |
| | Sophomores continue/finish old curriculum, 1st yr old curriculum course delete |
| Fall 2011 - | New freshmen enter new curriculum |
| | Old curriculum sophomores transition into existing BS Degree Program |
| | Now sophomores (from Fall 2010) continue new curriculum |
| Spring 2012 - | New freshmen continue new curriculum |
| | Now sophomores (from Fall 2010) continue/finish new curriculum |
| | Remaining courses of old curriculum deleted after this semester |
| Fall 2012 - | No admission to old curriculum program |
| | All incoming freshmen enter new curriculum |

# PPET TRANSITION FROM PLTS/RUBR

| | | | | |
|---|---|---|---|---|
| 2010 Freshmen-PLTS110 | 2010 Freshmen-New Curr | *2010 Freshman-New Curr | *2010 Freshmen-New Curr | #2010 Freshmen-BS Degree |
| ı2009 Freshmen-Old Currs | ı2009 Freshmen-Old Currs | ^2009 Freshmen-BS Degree | ^2009 Freshmen-BS Degree | %2009 Freshmen-BS Degree |
| | | 2011 Freshman-New Curr | 2011 Freshman-New Curr | $2011 Freshman-New Curr |
| | PLTS/RUBR 1st Yr Delete | | PLTS/RUBR Total Delete | No Admitance To PLTS/RUBR |
| ***FALL 2010*** | ***SPRING 2011*** | ***FALL 2011*** | ***SPRING 2012*** | ***FALL 2012*** |
| > | > | > | > | > |
| | | *Now Sophomores | *Now Sophomores | #Now Juniors |
| ıNow Sophomores | ıNow Sophomores | ^Now Juniors | ^Now Juniors | %Now Seniors |
| | | | | $Now Sophomores |

Out To Spring 2013 >

**FORM A**
**College of Engineering Technology**

Revised 05/08/2009

# PROPOSAL SUMMARY AND ROUTING FORM

## Proposal Title: Delete Rubber Technology AAS Degree Program

**Initiating Unit or Individual: Schult/Langell**
**Contact Person's Name: Schult/Langell e-mail: schultl@ferris.edu, langelll@ferris.edu**
**phone: Schult – ext 2650, Langell – ext 5260**
**Date or Term of Proposal Implementation: 10F**

- [X] **Group I - A – New degree/major or major, redirection of a current offering, or elimination of a degree, major or minor**
- [ ] **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 | Larry L Schult | 3/10/10 | 7 Support<br>___ Support with Concerns<br>0 Not Support |
| Department Faculty | Larry L Schult | 3/10/10 | 7 Support<br>___ Support with Concerns<br>0 Not Support |
| Department Head / Chair | | | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| College Curriculum Committee | Jan McKeen | 3/18/10 | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| Dean | Steve Ellis | 3/18/10 | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| University Curriculum Committee | Ron Mead | 3/22/10 | ✓ Support 7-0<br>___ Support with Concerns<br>___ Not Support |
| Senate | | | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| Academic Affairs | | | ___ Support<br>___ Support with Concerns<br>___ Not Support |

* Support with Concerns or Not Support must include a list of specific concerns. Votes must be shown for faculty groups. Administrators check appropriate action taken.

**To be completed by Academic Affairs**

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

## 1. Proposal Summary

Drop the existing Rubber AAS Degree Program. This is being done to allow the creation of a common core AAS Degree called the Plastics and Polymer Engineering Technology AAS Degree. The new degree will better serve the students by focusing them on the study of polymeric materials by combing the current Rubber Technology and Plastics Technology AAS Degrees. This new degree also better serves the plastics and rubber industries and provides graduates the ability to obtain a job in multiple disciplines or to pursue the BS Degree in Plastics Engineering Technology or the BS Degree in Rubber Engineering Technology.

For the sake of admission, the program will be closed to new incoming students when the new PPET Program is approved. The new program is expected to begin Spring Semester of 2011. Please refer to the attached Transition Plan and Timeline which both indicate the timing for the implementation and deletion of the courses and programs. First year students will be advised to transfer into the new program for Spring Semester of 2011. All courses previously taken by these students in their fall semester will apply to the new degree.

## 2. Summary of All Course Action Required*

a. Newly Created Courses to FSU:
Prefix Number Title

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**

3. **Summary of All Consultations**

| Form Sent (B or C) | Date Sent | Responding Dept. | Date Received & by Whom |
|---|---|---|---|
| Form B | 12/2/09 | Manufacturing | |
| Form B | 12/2/09 | Mathematics | |
| Form B | 12/2/09 | Physical Sciences | |
| Form C | 12/2/09 | Library | |

4. **Will External Accreditation be Sought? (For new programs or certificates only)**

_____ **Yes** _____X_____ **No**

**If yes, name the organization involved with accreditation for this program.**

5. **Program Checksheets affected by this proposal.**

Rubber Technology AAS – To Be Deleted
Rubber Engineering Technology BS – Change Entrance Prerequisite to PPET (New Program)

# College of Engineering Technology

March 18th, 2010

Deletion of the AAS in Plastics Technology and the AAS in Rubber Technology was approved through the program, school, and college committees with the original proposal to create the AAS in Plastics and Polymer Engineering Technology (PPET). The AAS in PPET will serve to replace both of the older AAS degrees.

This proposal was created afterward in order to separate out the AAS program deletions from the proposal to create the new AAS PPET degree.

Ron McKean, Associate Dean and Chair of the CET Curriculum Committee

FERRIS STATE UNIVERSITY
Imagine More

# Associate in Applied Science in Rubber Technology

## Course Sequence Guide

| | | | |
|---|---|---|---|
| Student: | | | |
| Email: | | ID: | |
| Advisor: | | Ph: | |

| YEAR 1 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 110 | Introduction to Rubber (PLTT/RUBT students) | 3 | |
| ETEC | 140 | Engineering Graphics | 3 | |
| ENGL | 150 | English 1 (ACT 14 or ENGL 074) | 3 | |
| MATH | 116 | Intermediate Algebra & Numerical Trig (ACT19 or MATH 110) | 4 | |
| | | Cultural Enrichment Elective | 3 | |
| FSUS | 100 | FSU Seminar | 1 | |
| | | **Total** | **17** | |

| YEAR 1 - SUMMER SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 193 | Rubber Internship | 4 | |
| | | **Total** | **4** | |

| YEAR 2 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 211 | Rubber Processing 2 | 4 | |
| RUBR | 212 | Rubber Tool Design & Construction (PLTS 110, ETEC 140) | 2 | |
| ENGL | 250 | English 2 (ENGL 150) | 3 | |
| COMM | 121 | Fundamentals of Public Speaking | 3 | |
| PHYS | 211 | Introductory Physics 1 (MATH 116 or 120 or 26 ACT) | 4 | |
| | | **Total** | **16** | |

| YEAR 1 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 121 | Rubber Processing 1 (PLTS 110) | 3 | |
| MFGT | 150 | Manufacturing Processes | 2 | |
| MATH | 126 | Algebra & Analytical Trig (C- or Better MATH 116) | 4 | |
| CHEM | 121 | General Chemistry 1 (CHEM 103 or H/S CHEM) | 5 | |
| | | Social Awareness Elective | 3 | |
| | | **Total** | **17** | |

| YEAR 2 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 223 | Rubber Measurement & Testing (MATH 116, CHEM 121) | 4 | |
| EEET | 201 | Electrical Fundamentals (ACT 24 or MATH 116) | 3 | |
| MECH | 250 | Fluid Powers w/Controls (MATH 116) | 2 | |
| MGMT | 305 | Supervision and Leadership | 3 | |
| CHEM | 211 | Fund. Organic/Polymer Chemistry (C- in CHEM 121) | 4 | |
| | | **Total** | **16** | |

**CURRENT CHECKSHEET**

Contact the Plastics and Rubber Department for more information!
Phone: 231-591-2640
Email:Plastics&Rubber@ferris.edu
www.ferris.edu/plastics

09F
1/29/2010

# Plastics and Polymer Engineering Technology
# Curriculum Transition Plan

The transition from having 2 separate AAS Degrees (1 Rubber Technology and 1 Plastics Technology) to having a common, polymer material based 2 year core of classes will happen in 2 yearly stages. The method is explained below.

Incoming freshmen (whether they have identified rubber or plastics as their curriculum choice) will all be scheduled for the following course in fall semester (2010): PLTS110. There is only 1 entry point to the program(s) and that is in the fall semester only. RUBR110 will not be offered to the students and will be deleted the end of spring semester 2011. For spring semester, the students will all be scheduled for PPET120 and PPET127. Both PLTS121 and RUBR121 will not be offered and those courses will be deleted by the end of spring semester, 2011. Incoming freshmen for the fall 2011 semester will be scheduled into the two new curriculum courses – PPET100 and PPET115. They will continue on in the new curriculum.

Due to the fact that there is only 1 entry point into both the Plastics and Rubber AAS Degree Programs, there shouldn't be existing students caught up between the old and new curriculums. If that would occur, the program will not delete the classes from the old curriculums until an entire year has transpired or all students have completed the requirements.

The existing (old curriculum) students who have finished the first year (their freshmen year) in 2009/2010 will continue with the old curriculum (PLTS211, RUBR211 & RUBR212) in the fall and spring semesters (PLTS212 & PLTS223, RUBR223) of 2010/2011. Those courses will still exist for that year (2010/2011). They will not be deleted until the end of spring semester 2012 in case there is a need for those courses for any reason. Enrollment will cease by fall semester 2012 into any portion of the old curriculum.

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Throughout the transition, any necessary exceptions and equivalencies will be given to the students to make the transition as transparent to them as possible.

Following the completion of the first two years, the student will have completed enough coursework to be awarded an Associate Degree in Plastics and Polymer Engineering Technology. However, the attainment of or issuance of the degree is not necessary for acceptance into either the Plastics Engineering Technology BS Degree or Rubber Engineering Technology BS Degree Programs. It is an option for the student who does not wish to pursue a bachelorette degree. Those students going on will have a choice between the Plastics Engineering Technology BS Degree Program or the Rubber Engineering Technology BS Degree Program.

*Summary Of Transition:*

| | |
|---|---|
| Fall 2010 - | New Freshmen take PLTS110 (the only old curriculum course they will get) |
| | Sophomores already in old curriculum for a year continue/finish old curriculum |
| Spring 2011 - | New Freshmen transition to new curriculum |
| | Sophomores continue/finish old curriculum, 1st yr old curriculum course delete |
| Fall 2011 - | New freshmen enter new curriculum |
| | Old curriculum sophomores transition into existing BS Degree Program |
| | Now sophomores (from Fall 2010) continue new curriculum |
| Spring 2012 - | New freshmen continue new curriculum |
| | Now sophomores (from Fall 2010) continue/finish new curriculum |
| | Remaining courses of old curriculum deleted after this semester |
| Fall 2012 - | No admission to old curriculum program |
| | All incoming freshmen enter new curriculum |

# PPET TRANSITION FROM PLTS/RUBR

| | | | | |
|---|---|---|---|---|
| 2010 Freshmen-PLTS110 | 2010 Freshmen-New Curr | *2010 Freshman-New Curr | *2010 Freshmen-New Curr | #2010 Freshmen-BS Degree |
| ı2009 Freshmen-Old Currs | ı2009 Freshmen-Old Currs | ^2009 Freshmen-BS Degree | ^2009 Freshmen-BS Degree | %2009 Freshmen-BS Degree |
| | | 2011 Freshman-New Curr | 2011 Freshman-New Curr | $2011 Freshman-New Curr |
| | PLTS/RUBR 1st Yr Delete | | PLTS/RUBR Total Delete | No Admitance To PLTS/RUBR |
| ***FALL 2010*** | ***SPRING 2011*** | ***FALL 2011*** | ***SPRING 2012*** | ***FALL 2012*** |
| > | > | > | > | > |
| | | *Now Sophomores | *Now Sophomores | #Now Juniors |
| ıNow Sophomores | ıNow Sophomores | ^Now Juniors | ^Now Juniors | %Now Seniors |
| | | | | $Now Sophomores |

Out To Spring 2013 >

# Curriculum Submission

"Plastics and Polymer Engineering Technology"

*Common core A.A.S. program to replace Plastics Technology & Rubber Technology A.A.S. programs*

**FORM A**
**College of Technology**
Revised 11/4/02

# PROPOSAL SUMMARY AND ROUTING FORM

## Proposal Title: "Common core" PPET AAS Program

Initiating Unit or Individual: Schult / Langell

Contact Person's Name: Schult / Langell e-mail: schultl@ferris.edu / langelll@ferris.edu

phone: Schult x2650 Langell x5260

Date or Semester of Proposal Implementation: 10F

- ☒ 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

To UCC 2/15/10

| Group/Individual | Signature | Date | Vote/Action * |
|---|---|---|---|
| Program Faculty | | 1-11-10 | 7 Support<br>___ Support with Concerns<br>0 Not Support |
| Department Faculty | | 1/11/10 | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| Department Head / Chair | | 1/13/10 | 6 Support<br>0 Support with Concerns<br>0 Not Support |
| College Curriculum Committee | | 1/28/10 | 10 Support<br>___ Support with Concerns<br>___ Not Support |
| Dean | | 2/15/10 | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| University Curriculum Committee | | | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| Senate | | | ___ Support<br>___ Support with Concerns<br>___ Not Support |
| Academic Affairs | | | ___ Support<br>___ Support with Concerns<br>___ 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

1. Create a new common core "Plastics & Polymer Engineering Technology" AAS program.

2. Drop the existing PLTS AAS and RUBR AAS programs.

3. New PPET courses better reflect the needs of the modern plastics & rubber industries

4. Common core will allow AAS graduates to obtain a job in multiple disciplines.

5. Addition of a "major elective" assists students with the choice between bachelor's programs by allowing them to try the curriculum prior to a final path decision. It also provides the student with curriculum specific foundation knowledge to be able to accelerate into the BS Degree coursework with minimal transitional review or curriculum roadblocks. (NOTE- space was created for this 2-credit course by trimming one credit each from the current PLTS 212 and PLTS 223 courses)

# 2. Summary of all course action required

a. Newly created courses to FSU

| Prefix | Number | Title |
|---|---|---|
| PPET | 100 | Survey of Plastics & Elastomers |
| PPET | 115 | Plastics Product Manufacturing |
| PPET | 120 | Plastics and Polymer Material Selection 1 |
| PPET | 127 | Introduction to Processing |
| PPET | 193 | Industrial Internship |
| PPET | 211 | Intro. to Injection Molding |
| PPET | 212 | Plastics Product Development 1 |
| PPET | 220 | Introduction to Medical Devices |
| PPET | 223 | Plastics Testing |
| PPET | 225 | Introduction to Plastics Packaging |
| PPET | 280 | Intro. to Rubber Technology |
| PPET | 284 | Intro. to Thermoplastic Elastomers |

b. Courses to be deleted from FSU catalog

| Prefix | Number | Title |
|---|---|---|
| PLTS | 100 | Survey of Plastics & Elastomers |
| PLTS | 110 | Intro. To Plastics Technology |
| PLTS | 121 | Plastics Processing 1 |
| PLTS | 193 | Industrial Internship |
| PLTS | 211 | Plastics Processing 2 |
| PLTS | 212 | Plastics Product & Tool Design 1 |
| PLTS | 220 | Plastics and Elastomer Materials |
| PLTS | 223 | Plastics Testing & Physical Properties |
| RUBR | 110 | Intro. To Rubber Technology |
| RUBR | 121 | Rubber Processing 1 |
| RUBR | 193 | Rubber Internship |
| RUBR | 211 | Rubber Processing 2 |
| RUBR | 212 | Rubber Tool Design & Construction |
| RUBR | 223 | Rubber Measurement & Testing |

c. Existing Course(s) to be Modified

| Prefix | Number | Title |
|---|---|---|

d. Addition of existing FSU courses to program

| Prefix | Number | Title |
|---|---|---|
| MATH | 115 | Algebra |
| MATH | 120 | Trigonometry |

e. Removal of existing FSU courses from program

| Prefix | Number | Title |
|---|---|---|
| MATH | 116 | Intermediate Algebra / Numerical Trig. |
| MATH | 126 | Algebra / Analytic Trigonometry |
| MFGT | 150 | Manufacturing Processes |

3. Summary of All Consultations

| Form Sent (B or C) | Date Sent | Responding Dept. | Date Received & by Whom |
|---|---|---|---|
| Form B | 12.2.09 | Manufacturing | |
| Form B | | Mathematics | |
| Form B | | Physical Sciences | |
| Form C | | Library | |

4. Will External Accreditation be Sought? (For new programs or certificates only)

_____ Yes _____X____ No

If yes, name the organization involved with accreditation for this program.

5. Program Checksheets affected by this proposal.

Plastics Technology AAS & Rubber Technology AAS
-Both to be deleted

Plastics Engineering Technology BS & Rubber Engineering Technology BS
-Entrance prereq. for each changes to "Plastics & Polymer Engineering Technology AAS"

# End-of-Program Outcomes

## PLASTICS & POLYMER ENGINEERING TECHNOLOGY

The overall objective of the Plastics & Polymer Engineering Technology Program is to prepare graduates for jobs in the plastics and rubber industries. An additional goal is to prepare graduates for entry into the Plastics Engineering Technology or Rubber Engineering Technology B.S, Degree Program.

To this end, students who complete the Plastics & Polymer Engineering Technology Program will possess the ability to:

- Demonstrate all safety policies of the laboratory, and to identify and correct unsafe conditions.
- Identify the technical terminology and concepts within the polymer industry.
- Identify products manufactured in various polymer industry manufacturing technologies.
- Differentiate between plastics, elastomeric and rubber materials and list the advantages and challenges of each.
- Identify the significant applications/uses of polymer materials.
- Safely and efficiently start up, troubleshoot, and shut down an injection molding process.
- Match injection molds to machines.
- Safely and efficiently pull and set an injection mold from/to an injection machine.
- Demonstrate print reading skills and be able to list a variety of plastics tooling concepts and nomenclature.
- Create a number of unique mold and part designs that use solid modeling as it applies to plastic part and mold design and flow simulations.
- Evaluate and compare/contrast several plastics product development strategies that involve new product design as well as product cost reduction and quality improvement.
- Conduct various selected tests according to ASTM/ISO procedures.
- Utilize statistical tools to monitor part quality in a manufacturing environment.
- Identify the various families of materials by listing, describing, and classifying them in terms of their mechanical and physical properties.

# Assessment Plan
## PLASTICS & POLYMER ENGINEERING TECHNOLOGY

1. Instructor evaluation student performance on written lab reports.
2. Examine of percentage performance of students on tests / exams.
3. Instructor observation of demonstrated competence in start-up, operation, and shut-down, and safe operation of lab equipment.
4. Instruction evaluation of student performance on semester projects (story board, research paper, webpage, etc).
5. Where appropriate (interns), evaluate using an indirect measure of a supervisor evaluation sheet.

# TABLE OF CONTENTS

# Program Description / General Information
## PLASTICS & POLYMER ENGINEERING TECHNOLOGY A.A.S.

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### Program Description

The Ferris Plastics Technology A.A.S. program was started in 1969 to fill a great need in the growing plastics industry for technically trained personnel. A Rubber Technology A.A.S. program was added in 1998 based on an urgent need in the rubber industry for technically trained personnel. Based on input from graduates, industry and faculty these two programs are being combined into a common core A.A.S. program – "Plastics & Polymer Engineering Technology".

This innovative program provides students with a background in plastics and rubber that includes topics such as processing, material testing and properties, and mold and product development. Classes emphasize hands-on learning, using the same type of equipment that is currently used in the plastics and rubber industries.

Students also serve a paid internship in industry for a minimum of ten weeks, gaining valuable firsthand experience before graduation. Some out-of-state companies even pay room and board in addition to salary to attract our interns. The internship helps students decide what type of position they would most enjoy after graduation.

Graduates of the PPET program will have the option of continuing directly into the Plastics Engineering Technology B.S. or Rubber Engineering Technology B.S. programs. Electives within the PPET A.A.S. program will allow the student to tailor their coursework to meet their individual needs. By including a "major elective", program faculty are able to develop & offer new courses in response to changes in the plastics & rubber industries.

Industry has historically been an excellent supporter of plastics & rubber at Ferris. In 1998, working with the State of Michigan, over $7,000,000 was spent to construct the National Elastomer Center, a building on campus with state-of-the-art laboratories and classrooms. Many companies actively support us by donating equipment and materials, making on-campus presentations and sponsoring field trips to their facilities.

### Transition Plan

The transition from having 2 separate AAS Degrees (1 Rubber Technology and 1 Plastics Technology) to having a common, polymer material based 2 year core of classes will happen in 2 yearly stages. The method is explained below.

Incoming freshmen (whether they have identified rubber or plastics as their curriculum choice) will all be scheduled for the following two core courses in fall semester (2010): PPET100 and PPET115. Both PLTS110 and RUBR110 will not exist. For spring semester, they will all be scheduled for PPET120 and PPET127. Both PLTS121 and RUBR121 will not exist. Due to the fact that there has been only 1 entry point into both the Plastics and Rubber AAS Degree Programs, there aren't students caught up between the old and new curriculums in the first year. If that would occur, the program would make equivalency provisions within the new curriculum.

In the above scenario, the students who have finished the first year (freshmen) under the old curriculum structure would continue with the old curriculum (PLTS211, RUBR211 & RUBR212) in the fall semester as well as the spring semester (PLTS212 & PLTS223, RUBR223). Those courses would still exist for that year (2010/2011).

By the following year (2011/2012) the entire new curriculum would be implemented, the freshmen from 2010/2011 would be into their sophomore year, and the existing courses would be dropped and replaced by the new courses (PPET212, Major Elective, PPET211, and PPET223). All students will exit the common first 2 years and then may enter into either the existing Plastics or Rubber Engineering Technology BS Degree curriculum (as they currently do). Those programs have not been changed at this time.

Throughout the transition, any necessary exceptions and equivalencies will be given to the students to make the transition as transparent to them as possible.

Following the completion of the first two years, the student will have completed enough coursework to be awarded an Associate Degree in Plastics and Polymer Engineering Technology. However, the attainment of or issuance of the degree is not necessary for acceptance into either the Plastics Engineering Technology BS Degree or Rubber Engineering Technology BS Degree Programs. It is an option for the student who does not wish to pursue a B.S. degree or would also like to attain an AAS degree along with a BS degree.

# PLTS Curriculum Submission – Affected Departments

**Manufacturing – Gary Ovans**

-Drop MFGT 150
-Drop PLTS 325
-Drop PLTS 342
-Add PPET 325
-Add PPET 342

NOTE: PPET 325 and PPET 342 are name change only

**Mathematics – Kirk Weller**

-Drop MATH 116
-Drop MATH 126
-Add MATH 115
-Add MATH 120

**Physical Sciences – Dave Frank**

-Move CHEM 121 from sophomore fall to freshman spring
-Move CHEM 211 from sophomore spring to sophomore fall

**FORM B**

# CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. All returned forms should be included in the packet and notation made of any contacted departments not responding. **NOTE:** The Proposing Department **must** respond to any modifications or concerns by the Responding Department. **The Responding Department 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** Plastics Curriculum Revisions

**Initiator(s):** Schult / Langell

**Proposal Contact:** Schult / Langell **Date Sent:** 12-2-09

**Department:** PLRU **Campus Address:** NEC 211
(Please print)

**Responding Department :** Manufacturing

Chair/Head/Coordinator: GARY OVANS, SWN-108 Date Returned: _____

Based upon department faculty review on 12/08/09 (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 B**

# CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. All returned forms should be included in the packet and notation made of any contacted departments not responding. **NOTE:** The Proposing Department **must** respond to any modifications or concerns by the Responding Department. **The Responding Department 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 Plastics Curriculum Revisions

**Initiator(s):** Schult / Langell

**Proposal Contact:** Schult / Langell **Date Sent:** 12-2-09

**Department:** PLRU **Campus Address:** NEC 211
(Please print)

**Responding Department :** Mathematics

Chair/Head/Coordinator: KIRK WELLER, ASC-2021 Date Returned: 12/7/09

Based upon department faculty review on _____(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 B**

# CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. All returned forms should be included in the packet and notation made of any contacted departments not responding. **NOTE:** The Proposing Department **must** respond to any modifications or concerns by the Responding Department. **The Responding Department 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 Plastics Curriculum Revisions

**Initiator(s):** Schult / Langell

**Proposal Contact:** Schult / Langell **Date Sent:** 12-2-09

**Department:** PLRU **Campus Address:** NEC 211
(Please print)

**Responding Department :** Physical Sciences

Chair/Head/Coordinator: DAVID FRANK, ASC-3021 Date Returned: 12-4-09

Based upon department faculty review on 11/17/09 (date), we

- [x] Support the above proposal. (unanimous vote at dept mtg)
- [ ] 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. 07/27/07

# FLITE SERVICES CONSULTATION FORM

To be completed by the liaison librarian and approved by the Dean of FLITE. All returned forms should be included in the proposal. **FLITE 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: Plastics Program Curriculum Revision

**Projected number of students per year affected by proposed change:** 120

**Initiator(s):** Larry Langell / Larry Schult

**Proposal Contact:** Larry Langell Date Sent: 12-2-09

**Department:** PLRU **Campus Address:** NEC 221
(Please print)

**Liaison Librarian Signature:** Frances Rosen **Date:** 12/4/09

**Dean of FLITE Signature:** Lisa M. Moran **Date Returned:** 12-9-09

Based upon our review on 12/4/09 (date), FLITE 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.**

FORM D CURRENT
FORM D PROPOSED

# PROGRAM, MAJOR, OR MINOR CHECK SHEET(S)

Insert both the current curriculum check sheet (if applicable) followed by proposed curriculum check sheet" and/or "academic program requirements" list.

- **LABEL CHECK SHEETS AS "FORM D CURRENT" and "FORM D PROPOSED."**
- **Checksheets should indicate total credits, General Education requirements per catalog guidelines (include course levels), and the minimum number of 300 and 400 level courses.**
- **Indicate all course prerequisites.**
- **Indicate any special admissions, continuation, or graduation requirements.**

FERRIS STATE UNIVERSITY

Imagine More

# Associate in Applied Science in Plastics Technology

## Course Sequence Guide

| | | | |
|---|---|---|---|
| Student: | | | |
| Email: | | ID: | |
| Advisor: | | Ph: | |

| YEAR 1 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 110 | Intro to Plastics Technology (PLTT/RUBT Student) | 3 | |
| MFGT | 150 | Manufacturing Processes | 2 | |
| ENGL | 150 | English 1 (ACT 14 or ENGL 074) | 3 | |
| MATH | 116 | Intermediate Algebra & Numerical Trig (ACT19 or MATH 110) | 4 | |
| | | Social Awareness Elective | 3 | |
| FSUS | 100 | FSU Seminar | 1 | |
| | | Total | 16 | |

| YEAR 1 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 121 | Plastics Processing 1 (PLTS 110) | 4 | |
| ETEC | 140 | Engineering Graphics | 3 | |
| MATH | 126 | Algebra & Analytical Trig (C- or Better MATH 116) | 4 | |
| PHYS | 211 | Introductory Physics 1 (MATH 116 or 120 or 26 ACT | 4 | |
| | | Total | 15 | |

| YEAR 1 - SUMMER SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 193 | Industrial Internship | 4 | |
| | | Total | 4 | |

| YEAR 2 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 211 | Plastics Processing 2 | 5 | |
| EEET | 201 | Electrical Fundamentals (ACT 24 or MATH 116) | 3 | |
| ENGL | 250 | English 2 (ENGL 150) | 3 | |
| CHEM | 121 | General Chemistry 1 (CHEM 103 or H/S CHEM) | 5 | |
| | | Cultural Enrichment Elective | 3 | |
| | | Total | 19 | |

| YEAR 2 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PLTS | 212 | Plts. Prdt. & Tool Design 1 (PLTS 110, ETEC 140) | 5 | |
| PLTS | 223 | Plts Testing & Properties (MATH 116, CHEM 121) | 5 | |
| MECH | 250 | Fluid Power w/Controls (MATH 116) | 2 | |
| CHEM | 211 | Fund. Organic/Polymer Chemistry (C- in CHEM 121) | 4 | |
| | | Total | 16 | |

**CURRENT CHECKSHEET**

Contact the Plastics and Rubber Department for more information!
Phone: 231-591-2640
Email:Plastics&Rubber@ferris.edu
www.ferris.edu/plru

09F
1/29/2010

FERRIS STATE UNIVERSITY
Imagine More

# Associate in Applied Science in Rubber Technology

## Course Sequence Guide

| | | | |
|---|---|---|---|
| Student: | | | |
| Email: | | ID: | |
| Advisor: | | Ph: | |

| YEAR 1 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 110 | Introduction to Rubber (PLTT/RUBT students) | 3 | |
| ETEC | 140 | Engineering Graphics | 3 | |
| ENGL | 150 | English 1 (ACT 14 or ENGL 074) | 3 | |
| MATH | 116 | Intermediate Algebra & Numerical Trig (ACT19 or MATH 110) | 4 | |
| | | Cultural Enrichment Elective | 3 | |
| FSUS | 100 | FSU Seminar | 1 | |
| | | | Total 17 | |

| YEAR 1 - SUMMER SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 193 | Rubber Internship | 4 | |
| | | | Total 4 | |

| YEAR 2 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 211 | Rubber Processing 2 | 4 | |
| RUBR | 212 | Rubber Tool Design & Construction (PLTS 110, ETEC 140) | 2 | |
| ENGL | 250 | English 2 (ENGL 150) | 3 | |
| COMM | 121 | Fundamentals of Public Speaking | 3 | |
| PHYS | 211 | Introductory Physics 1 (MATH 116 or 120 or 26 ACT) | 4 | |
| | | | Total 16 | |

| YEAR 1 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 121 | Rubber Processing 1 (PLTS 110) | 3 | |
| MFGT | 150 | Manufacturing Processes | 2 | |
| MATH | 126 | Algebra & Analytical Trig (C- or Better MATH 116) | 4 | |
| CHEM | 121 | General Chemistry 1 (CHEM 103 or H/S CHEM) | 5 | |
| | | Social Awareness Elective | 3 | |
| | | | Total 17 | |

| YEAR 2 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| RUBR | 223 | Rubber Measurement & Testing (MATH 116, CHEM 121) | 4 | |
| EEET | 201 | Electrical Fundamentals (ACT 24 or MATH 116) | 3 | |
| MECH | 250 | Fluid Powers w/Controls (MATH 116) | 2 | |
| MGMT | 305 | Supervision and Leadership | 3 | |
| CHEM | 211 | Fund. Organic/Polymer Chemistry (C- in CHEM 121) | 4 | |
| | | | Total 16 | |

**CURRENT CHECKSHEET**

Contact the Plastics and Rubber Department for more information!
Phone: 231-591-2640
Email:Plastics&Rubber@ferris.edu
www.ferris.edu/plastics

09F
1/29/2010

FERRIS STATE UNIVERSITY
Imagine More

# Associate in Applied Science in Plastics and Polymer Engineering Technology

| | | | |
|---|---|---|---|
| Student: | | | |
| Email: | | ID: | |
| Advisor: | | Ph: | |

| YEAR 1 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PPET | 100 | Survey of Plastics / Elastomer Technology (instructor's permission) | 2 | |
| PPET | 115 | Plastics Product Manufacturing (instructor's permission) | 2 | |
| ENGL | 150 | English 1 (ACT 14 or ENGL 074) | 3 | |
| ETEC | 140 | Engineering Graphics | 3 | |
| MATH | 115 | Intermediate Algebra (C- in MATH 110 or 19 ACT) | 3 | |
| FSUS | 100 | FSU Seminar | 1 | |
| | | **Total** | **14** | |

| YEAR 1 - SUMMER SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PPET | 193 | Industrial Internship (admitted to PPET/AAS degree) | 4 | |
| | | **Total** | **4** | |

| YEAR 2 - FALL SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PPET | 212 | Plastics Product Development 1 (PPET 100, ETEC 140) | 4 | |
| *PLTS/RUBR | | Major Elective (Consult with advisor) (Sophomore level in PPET program or instructor's permission) | 2 | |
| CHEM | 211 | Fund. Organic/Polymer Chemistry (C- in CHEM 121) | 4 | |
| PHYS | 211 | Introductory Physics 1 (C- in MATH 116 or 120 or 26 ACT) | 4 | |
| ENGL | 250 | English 2 | 3 | |
| | | **Total** | **17** | |

*PPET 220, PPET 225, PPET 280, PPET 284

| YEAR 1 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PPET | 120 | Plastics & Polymer Mat'l Selection 1 (PPET 100 or instructor's permission) | 3 | |
| PPET | 127 | Introduction to Processing (PPET 115 or instructor's permission) | 4 | |
| MATH | 120 | Numerical Trigonometry (C- in MATH 115 or 24 ACT) | 3 | |
| CHEM | 121 | General Chemistry 1 (CHEM 103 or H/S Chemistry) | 5 | |
| ELECTIVE | | Cultural Enrichment Elective | 3 | |
| | | **Total** | **18** | |

| YEAR 2 - SPRING SEMESTER | | | Crs | Gr |
|---|---|---|---|---|
| PPET | 211 | Introduction to Injection Molding (PPET 127) | 5 | |
| PPET | 223 | Plastics Testing (PPET 100, MATH 115, CHEM 121) | 4 | |
| MECH | 250 | Fluid Power w/Controls (MATH 115 or 24 ACT) | 2 | |
| EEET | 201 | Electrical Fundamentals (MATH 115 or 24 ACT) | 3 | |
| ELECTIVE | | Social Awareness Elective | 3 | |
| | | **Total** | **17** | |

Internship not required for continuation of BS degree coursework

**PROPOSED CHECKSHEET**

Contact the Plastics and Rubber Department for more information!
Phone: 231-591-2640
Email:Plastics&Rubber@ferris.edu
www.ferris.edu/plru

Fall 2010
3/3/2010

# Major Electives

## PLASTICS & POLYMER ENGINEERING TECHNOLOGY A.A.S.

The Plastics and Polymer Engineering Technology AAS degree has a 2-credit "Major Elective" course which is being offered in the first semester of the sophomore year.

The intent of offering a "Major Elective" is to allow students to choose between a Plastics or Rubber offering. By offering this in the sophomore year the student should be able to choose the class that will best fit with their intended Bachelors degree (Plastic or Rubber Engineering Technology).

Pending approval of the new PPET AAS program the following is the plan for the "major" electives-

Plastics offerings (2-credits)
PPET 220 – Introduction to Medical Devices
PPET 225 - Introduction to Plastics Packaging

Rubber offerings (2-credits)
PPET 280 – Introduction to Rubber Technology
PPET 284 – Introduction to Thermoplastic Elastomers

**Sample** **FORM E**

# NEW COURSE INFORMATION FORM

***See Sample – Limit to Two Pages Please***

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 100 | Survey of Plastics and Elastomer Technology<br>2-credits (2-lec. / 0-lab.) |

**Course Description:**

This course *introduces* the student to the materials, processes, products, methodologies, and trends within the plastics/polymer. It affords the student, who has little/no prior background in the field to learn the basic vernacular in preparation for more advance classes

**Course Outcomes**

1. The student will be able to differentiate between different plastics and elastomeric materials and be able to categorize what processes and products employ each material.
2. The student will be able to list and discuss a variety of processes and products for producing plastics parts and assemblies
3. The student will experience the different design methodologies currently used in the plastics industry by means of demonstrations

**Assessment Plan:**

1. Daily quiz and/or exam
2. Homework assignment

**Course Outline including Time Allocation:**

| NO. | UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|---|
| I. | History of the plastics industry | 2 | |
| II. | Plastics Industry demographics | 3 | |
| III. | Plastic Materials (including chemistry (overview), properties, end-use markets, and nomenclature) | 4 | |
| IV. | Elastomeric Materials | 3 | |
| V. | Plastics and Elastomer Processing | 11 | |

| | | | |
|---|---|---|---|
| VI. | Product Design Basics | 3 | |
| VII. | Decorating and Assembly Basics | 2 | |
| VIII. | Recycling | 2 | |
| | | | |
| | | | |
| | Total Hours | 30 | |
| | | | |

**PPET 100 Survey of Plastics and Elastomer Technology**

**Sample** **FORM E**

# NEW COURSE INFORMATION FORM

*See Sample – Limit to Two Pages Please*

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 115 | Plastics Product Manufacturing<br>2-credits (1-lec. / 3-lab.) |

**Course Description:**

This course assumes that the student has little or no prior knowledge of the manufacturing activities of plastics or rubber products. The course is directed toward providing the student with an "awareness" level of the basics of making polymer based products.

**Course Outcomes :**

Students satisfactorily completing this course will achieve/complete/demonstrate. . . . :

1. Define and properly use the terminology of the plastics and rubber manufacturing Industries.
2. Compare and contrast the plastics and rubber industries to other industries.
3. Identify and discuss the end-use applications of plastics and rubber.
4. Perform the basic operation of the processing equipment used to make products.
5. Demonstrate the use of proper safety procedures applicable to the processes.

**Assessment Plan:**

1. Test and/or exam
2. Performance in lab
3. Oral presentation
4. Written report

**Course Outline including Time Allocation:**

| NO. | UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|---|
| I. | Course Introduction | 1 | 3 |
| II. | Introduction to Plastics and Rubber Manufacturing | 1 | 3 |
| III. | Introduction to Rubber and Plastics Material and Properties<br>A. Polymer Chemistry Survey<br>B. Terms and Definitions For Plastics and Rubber<br>C. Processing/Product Material Modifiers | 2 | 6 |
| IV. | Introduction to Rubber and Plastics Performance<br>A. Overview of Materials Testing<br>B. Material Data Resources<br>C. Supplier Quality | 2 | 6 |

| | | | |
|---|---|---|---|
| V. | Rubber and Plastics Processing<br>A. Injection<br>B. Extrusion<br>C. Compression/Transfer<br>D. Blow Molding/Rotational Molding<br>E. Thermoforming<br>F. Overview of Secondary Operations<br>G. Hand Lay-ups (Liquid TO)<br>H. Material handling processes | 4 | 12 |
| VI. | Types of Rubber and Plastics Products | 1 | 3 |
| VII. | Rubber and Plastics Tooling | 1 | 3 |
| VIII. | Costs of Manufacturing With Plastics & Rubber | 1 | 3 |
| IX. | Evaluations | 2 | 6 |
| | Total Hours | 15 | 45 |
| | | | |

**PPET 115 Plastics Product Manufacturing**

**FORM E**

# NEW COURSE INFORMATION FORM

***See Sample – Limit to Two Pages Please***

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 120 | **Plastics and Polymers Materials Selection 1** |
| | | **3-credits (3-lec. / 0-lab.)** |

## Course Description:

The course focuses on the taxonomy of plastics and polymer materials, an overview of their key characteristics, an overview of the companies that produce these materials, and the relationship between materials costs and feedstock materials. Additionally, there is an overview of additive materials and their basic influences on plastic compounds. There will be an overview of the sustainability issues associated with plastics materials and plastic product manufacturers

## Course Outcomes:

Satisfactorily completing this course ...

1. The Student will be able to classify Polymer/Plastic materials and additives by nomenclature (trade name/polymer name/abbreviation)
2. The student will be able to list and report on which companies produce polymer/plastic materials
3. The student will be able to categorize polymer/plastic materials using a variety of affinity diagrams

## Assessment Plan:

1. Test and/or exam
2. Written report
3. Presentation

## Course Outline including Time Allocation:

| NO. | UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | |
|---|---|---|---|
| I. | Overview of the State of the polymer production industry | 4 | |
| II. | The global producers of polymers/plastic compounds | 8 | |
| III. | Resources and databases available as tools | 3 | |

| | | | |
|---|---|---|---|
| IV. | Design of materials to meet specific applications | 3 | |
| V. | Plastic and health: issues and concerns | 3 | |
| VI. | Recycling/Sustainability Systems and trends | 4 | |
| VII. | Material Identification Issues | 3 | |
| VIII. | Additives overview | 3 | |
| IX. | Thermoset versus Thermoplastics Overview | 2 | |
| X. | Materials Quality terminology and tools - Overview | 3 | |
| XI | Available materials selection tools and resources | 2 | |
| XII | New Technology and Trends | 2 | |
| XIII | Exams/Project/field trip(s) | 5 | |
| XIV | TOTAL | 45 | |

**PPET 120 Plastics and Polymers Materials Selection 1**

**Sample** **FORM E**

# NEW COURSE INFORMATION FORM

*See Sample – Limit to Two Pages Please*

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 127 | Introduction to Processing<br>4-credits (3-lec. / 3-lab.) |

**Course Description:**
This is a more advanced polymer processing course which focuses on the top 4 key processing methods for producing polymer products. The course includes components of career definition, material differences for processing, and a concise look at pre and post molding activities.

**Course Outcomes:**
- To list and discuss the technical terminology and concepts within polymer using industries.
-To be able to identify components and functions of lab equipment and activities.
-To demonstrate the proper use of lab equipment.

**Assessment Plan:**
1. Daily quiz and/or exam
2. Written report
3. Test and/or exam

**Course Outline including Time Allocation:**

| NO. | UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|---|
| I. | Introduction: Orientation and Safety | 1 | 0 |
| II. | Lab Facilities Orientation/Operation | 0 | 3 |
| III. | Polymer Industry Job Search & Computer Skills | 0 | 3 |
| IV. | The Polymer Industry | 2 | 0 |
| V. | Polymer Chemistry Overview/Review | 2 | 0 |
| VI. | Specific Processing Machine Demonstrations | 0 | 3 |
| VII. | Polymer Properties and Testing | 2 | 3 |
| VIII. | Ingredients of Polymeric Materials | 1 | 0 |
| IX. | Thermoplastic Materials | 2 | 0 |

| | | | |
|---|---|---|---|
| X. | Thermosetting Materials | 2 | 0 |
| XI. | The Extrusion Process | 5 | 3 |
| XII. | The Injection Process | 4 | 3 |
| XIII. | The Blow Molding Process | 5 | 3 |
| XIV. | The Thermoforming Process | 3 | 3 |
| XV. | Process Auxiliary Equipment | 1 | 3 |
| XVI. | Thermosetting Processes | 3 | 6 |
| XVII. | Decoration and Assembly Processes | 4 | 3 |
| XVIII. | Basic Design & Material Flow Analysis | 3 | 6 |
| XIX. | Tooling | 2 | 3 |
| XX. | Evaluations and Field Trips | 3 | 0 |
| XXI. | Total Hours | 45 | 45 |

**PPET 127 Introduction to Processing**

**Sample** **FORM E**

# NEW COURSE INFORMATION FORM

*See Sample – Limit to Two Pages Please*

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 193 | Industrial Internship<br>4-credits |

**Course Description:**

This course places students into an industrial setting for ten weeks of supervised, on-the-job training with a plastics / rubber manufacturer, processor, or related firm. The professional experience that the student will receive is a combined effort of the training site, university, and student. Students will be involved in the production of polymeric products and the daily activities of engineers in the plastics / rubber industry.

**Course Outcomes:**

The intern is involved in normal project work and duties for their employer. Additionally, the intern will complete various assignments for the university.

1. Completion of a minimum of 400 hours of work for the employer
2. Submit a weekly report of activities to their intern coordinator
3. Submit a "student evaluation" form to their intern coordinator
4. Submit an "employer evaluation" form to their intern coordinator
5. Submit a Final Report to their intern coordinator
6. The intern will host an internship site visit by their faculty internship coordinator

**Assessment Plan:**

1. Internship evaluation
2. Written report

**Course Outline including Time Allocation:**

400 hours on the job at an employer in the plastics / rubber industry.

Sample

FORM E

# NEW COURSE INFORMATION FORM

*See Sample – Limit to Two Pages Please*

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 211 | Intro. to Injection Molding<br>5-credits (3-lec. / 6-lab.) |

**Course Description:**

This course will provide the student with knowledge and experience in solving common problems encountered in running injection molding production equipment. The course seeks to relate the machine control parameters to their effects on the process and ultimately to the final part quality. The student will set-up processes for production runs. Added emphasis will be placed on primary troubleshooting and process optimization.

**Course Outcomes:**

-To safely and efficiently start-up, optimize, troubleshoot, and shut-down an injection molding process.
-To match injection molds to injection machines.
-To safely and efficiently pull and set an injection mold from/to an injection machine.

**Assessment Plan:**

1. Demonstration / observation
2. Performance
3. Written report
4. Test and/or exam

**Course Outline including Time Allocation:**

| UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|
| Introduction: Orientation and Safety | 1 | 6 |
| Materials | 3 | 3 |
| Molds | 3 | 3 |
| Machine Components | 6 | 3 |
| Molds vs. Machines | 0 | 3 |
| Injection Molding Cycle | 1 | 1 |
| Machine Controls | 6 | 6 |
| Machine Start-Up/Shut-Down | 0 | 1 |

| | | |
|---|---|---|
| Pulling and Setting Molds | 0 | 12 |
| Process Optimization | 10 | 20 |
| Troubleshooting | 9 | 20 |
| Evaluations | 6 | 12 |
| Total Hours | 45 | 90 |

Sample

FORM E

# NEW COURSE INFORMATION FORM

*See Sample – Limit to Two Pages Please*

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 212 | Plastics Product Development 1 |
| | | 4-credits (3-lec. / 3-lab.) |

**Course Description:**

This course will provide the student with the knowledge of plastics product and tool design as it pertains to successful production tooling. Special emphasis will be given to understanding the role of the following critical elements in Plastic Product and Tool Design: Plastic Material selection, Mold filling analysis, Mold Components and their functions.

**Course Outcomes:**

-The student will demonstrate print reading skills and be able to list a variety of plastics tooling concepts and nomenclature

-The student will create a number of unique mold and part designs that use solid modeling as it applies to plastic part and mold design, and its use in plastic flow simulations

-The student will evaluate and compare several plastics product development strategies that involve new product design as well as product cost reduction and quality improvement

**Assessment Plan:**

1. Daily quiz and/or exam
2. Lab exercises / performance
3. Homework assignment
4. Project evaluation

**Course Outline including Time Allocation:**

| NO. | UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|---|
| I. | Introduction to course, mold design, and plastics part design | 5 | 1 |
| II. | Solid modeling and mold filling analysis | 4 | 30 |
| III. | Mold and Dies Nomenclature for all major plastic processes | 15 | 6 |
| IV. | Selection materials for molds and plastic products | 3 | 1 |
| V. | Mold and Part design concepts/strategies | 6 | 3 |
| VI. | Print Reading for both molds and parts | 4 | 2 |
| VII. | Prototyping and mold verification strategies and mold purchasing | 3 | |
| VIII. | Mold control concepts (heating/cooling) | 3 | 2 |

| | | | |
|---|---|---|---|
| IX. | Advanced mold design concepts (runnerless/stack molds/multi-material molds) | 1 | |
| X. | New and Future developments in mold and plastic product design | 1 | |
| | Total Hours | 45 | 45 |

**Sample** **FORM E**

# NEW COURSE INFORMATION FORM

***See Sample – Limit to Two Pages Please***

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 220 | **Introduction to Medical Devices**<br>**2-credits (2-lec. / 0-lab.)** |

## Course Description:

This course is designed to provide an introductory overview of the medical device industry, and its unique design and manufacturing challenges. The course first examines the industry itself, reviewing basic industry statistics, current trends, and the many types of products that make up the medical device industry.

The course is focused on defining and understanding of medical devices in the growing medical market. The other accompanying theme is to gain an understanding of device design and how to innovate to create and then sustain a medical product.

## Course Outcomes:

After completing this course, students will be able:

1. Appreciate the rich history of the medical device literature.
2. Understand describe the basic mechanisms underlying core medical devices
3. Have the ability to explain and demonstrate the theory behind monitoring the five vital signs: cardiac activity, blood pressure, respiration, temperature, and arterial saturation of oxygen.
4. List the high job growth areas in the medical device field: cardiovascular, neural engineering, imaging, orthopedic, and combination products.
5. Be familiar, understand & differentiate FDA device Classes.

## Assessment Plan:

1. Demonstration / observation
2. Test and/or exam
3. Homework assignment
4. Written report

## Course Outline including Time Allocation:

| NO. | UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|---|
| I. | History of the medical device | 3 | |
| II. | Theory behind monitoring the five vital signs | 2 | |
| III. | Familiar with the high growth areas in the medical device field | 2 | |

| | | | |
|---|---|---|---|
| IV. | FDA device Classes (Class I, Class II and Class III) | 2 | |
| | Devices to be covered include: | | |
| V | Cardiovascular devices | 2 | |
| VI. | Respiratory devices | 2 | |
| VII. | Neural devices | 2 | |
| VIII. | Imaging modalities | 3 | |
| IX. | Implant and prosthesis | 4 | |
| X. | Surgery devices & tools | 4 | |
| XI. | OBGYN instruments | 2 | |
| | Evaluation | 2 | |
| | Total Hours | | |

Sample

FORM E

# NEW COURSE INFORMATION FORM

*See Sample – Limit to Two Pages Please*

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 223 | Plastics Testing<br>4-credits (3-lec. / 3-lab.) |

**Course Description:**

This course acquaints students with concepts of procedures used in evaluating plastic materials, test samples, and molded parts, Standard testing methods used for evaluation of plastic materials, in particular ASTM and ISO. Interpretation of testing results with respect to raw materials selection, processing parameters, and part design considerations. Basic quality control/ quality assurance techniques related to plastics testing.

**Course Outcomes:**

Students satisfactorily completing this course will be able to:

1. Conduct various selected tests according to ASTM/ISO procedures.
2. Utilize statistical tools to monitor part quality in a manufacturing environment.
3. Identify the various families of materials and describe and classify them in terms of their physical properties.

**Assessment Plan:**

1. Lab performance
2. Test and/or exam
3. Observation
4. Written report

**Course Outline including Time Allocation:**

| NO. | UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|---|
| I. | Introduction: Orientation and Safety (Lab Demos) | 1 | 12 |
| II. | Basic Statistics | 3 | 0 |
| III. | Mechanical Properties | 16 | 9 |
| IV. | Thermal Properties | 6 | 6 |
| V. | Material Characterization | 3 | 6 |
| VI. | Analytical Tests | 2 | 3 |
| VII. | Identification of Plastics Materials | 2 | 3 |

| | | | |
|---|---|---|---|
| VIII. | Optical Properties | 1 | 0 |
| IX. | Chemical and Weathering Properties | 1 | 0 |
| X. | Electrical and Flammability Properties | 2 | 0 |
| XI. | Statistical Tools applied to Quality Control | 6 | 3 |
| XII. | Evaluation | 2 | 3 |
| | Total Hours | 45 | 45 |

**Sample** **FORM E**

# NEW COURSE INFORMATION FORM

*See Sample – Limit to Two Pages Please*

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 225 | Introduction To Plastics Packaging<br>2-credits (2-lec. / 0-lab.) |

**Course Description:**

This is an introductory course in the AAS/BS Plastics and Polymer Engineering Technology curriculum. The course assumes the student has prior knowledge of polymer materials, processing methods, and the plastics industry. The course provides the student with a working knowledge of the basics of the plastics packaging industry specifically. The student will be exposed to the parameters of, issues of, and opportunities of this segment of the plastics industry.

**Course Outcomes:**

-Differentiate between industrial focused and consumer focused packaging.
-Describe the material and performance differences between plastics and other typical packaging materials (fiber board/glass/metal).
-Classify the typical packaging products that are produced by each of the key processing methods of plastics and why each is used.
-Demonstrate the ability to select the proper plastics material utilized for different categories of packaging products.
-Identify the typical testing methods utilized to evaluate and validate typical packs for specific product types.
-List and explain sustainability issues with plastics packaging materials and products.

**Assessment Plan:**

1. Daily quiz and/or exam
2. Test
3. Written report
4. Project evaluation

**Course Outline including Time Allocation:**

| NO. | UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|---|
| I. | Introduction To Course, Instructor, and Packaging Industry. | 1 | 0 |
| II. | Packaging Applications and Classification | 2 | 0 |

| | | | |
|---|---|---|---|
| III. | Packaging Material Differences Exploration | 3 | 0 |
| IV. | Advantages and Disadvantages of Plastics Packaging | 2 | 0 |
| V. | Key Plastics Packaging Design & Objectives Overview | 2 | 0 |
| VI. | Plastics Materials Selection and Performance Criteria | 3 | 0 |
| VII. | Plastics Packaging Categories | 2 | 0 |
| VIII. | Industrial Packaging Dunnage and Applications | 2 | 0 |
| IX. | Food Packaging Overview & Requirements | 3 | 0 |
| X. | Plastics Packaging Processing Methods | 5 | 0 |
| XI. | Product Validation, Testing, and Laws | 3 | 0 |
| XII. | Packaging and the Environment | 2 | 0 |
| | Total Hours | 30 | 0 |
| | | | |

**PPET 225 Intro. to Plastics Packaging**

**Sample** **FORM E**

# NEW COURSE INFORMATION FORM

***See Sample – Limit to Two Pages Please***

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 280 | Intro. to Rubber Technology<br>2-credits (1-lec. / 3-lab.) |

## Course Description:

This course assumes that the student has no prior knowledge of rubber, chemistry or manufacturing. The course will provide an awareness of the following: rubber industry terminology, the nature of the rubber industry, end-use applications of rubber products, the basic processing techniques utilized and safety procedures applicable to the rubber industry. This course assumes that the student has no prior knowledge of rubber, chemistry or manufacturing. The course will provide an awareness of the following: rubber industry terminology, the nature of the rubber industry, end-use applications of rubber products, the basic processing techniques utilized and safety procedures applicable to the rubber industry.

## Course Outcomes:

Students satisfactorily completing this course will be able to:

1. Explain what the rubber industry is and how it is structured.
2. List common terminology used in the rubber industry.
3. List the similarities and also the differences between plastics and rubber industry.
4. Identify many common end-use applications for rubber products.
5. Identify the basic processes associated with the mixing and molding of rubber.

## Assessment Plan:

1. Homework assignment
2. Written report
3. Test
4. Daily quiz and/or exam

## Course Outline including Time Allocation:

| UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|
| Introduction: Course Orientation | 1 | 3 |
| Introduction to rubber industry | 1 | 0 |
| Introduction to rubber materials<br>• Terminology by ASTM nomenclature<br>• Safe handling of rubber chemicals | 1 | 3 |

| | | |
|---|---|---|
| Introduction to rubber characteristics and testing<br>• Instruments and testing for curing profiles<br>• Physical properties and tests<br>• Chemical and solvent resistance tests | 3 | 10 |
| Rubber handling and processing methods<br>• Safe handing of processing equipment<br>• Milling and mixing methods and techniques<br>• Molding processes | 2 | 18 |
| Rubber product design | 2 | 4 |
| Rubber product markets | 1 | 0 |
| Rubber process tooling and terminology | 1 | 3 |
| Basic rubber product cost elements | 1 | 1 |
| Evaluations and Field Trips | 2 | 3 |
| Total Hours | 15 | 45 |

**PPET 280 Intro. to Rubber Technology**

**Sample** **FORM E**

# NEW COURSE INFORMATION FORM

***See Sample – Limit to Two Pages Please***

## Course Identification:

| Prefix: | Number | Title |
|---|---|---|
| PPET | 284 | Intro. to Thermoplastic Elastomers (TPE) |
| | | 2-credits (2-lec. / 0-lab.) |

## Course Description:

This course acquaints students with various categories of TPE, such as thermoplastic olefins (TPO), thermoplastic urethanes (TPU), ionomers, and thermoplastic vulcanizates (TPV). Students will learn the unique properties of TPEs because of their morphology and processability so that they behave like "rubber" while being able to be processed like thermoplastics. In addition to the characterization and fabrication of different TPEs, students will also learn the "dynamic vulcanization" to prepare different TPVs.

## Course Outcomes:

Students satisfactorily completing this course will be able to:

1. Differentiate between TPE and Thermoset Elastomers (TSE).
2. Identify and discuss different TPEs and their properties.
3. Demonstrate knowledge of proper testing methods.
4. Identify different processing methods for suitable for end uses.

## Assessment Plan:

1. Demonstration / observation
2. Test and/or exam
3. Written report

## Course Outline including Time Allocation:

| UNIT TOPIC DESCRIPTION SUMMARY | LECTURE HOURS | LAB HOURS |
|---|---|---|
| Course orientation | 1 | 0 |
| Classification of TPE<br>1. History of TPE<br>2. TPE vs. TSE<br>3. Block copolymers<br>4. Thermoplastic olefins<br>5. TPV<br>6. Ionomers | 6 | 0 |

| | | |
|---|---|---|
| Morphology of TPE<br>1. Fundamental of elasticity<br>2. Crystallinity and melting point of TPE<br>3. Glass transition of TPE<br>4. Homopolymers PE and PP vs. EPM | 4 | 0 |
| Testing TPE<br>1. Rheometry<br>2. Thermal analysis<br>3. Tensile properties<br>4. Heat aging and compression set<br>5. Cold temperature flexibility<br>6. Solvent and chemical tesistance | 4 | 0 |
| Dynamic vulcanization and preparation of TPV<br>1. Polymer blend and compatibility<br>2. Basic rubber compounding<br>3. Compounding materials<br>4. High shear mixers<br>1. Internal mixers with intermeshing rotors<br>2. Two-roll mills<br>3. Twin-screw mixer / extruder | 4 | 0 |
| End use and selection of TPE<br>1. Trade names and suppliers<br>2. Applications of TPE<br>3. Recycling rubber using dynamic vulcanization | 4 | 0 |
| TPE Processing<br>1. Injection molding<br>2. Extrusion<br>3. Blow molding<br>4. Thermoforming<br>5. Heat welding | 3 | 0 |
| Project and presentation | 2 | 0 |
| Evaluations | 2 | 0 |
| Total hours | 30 | 0 |

**PPET 284 Intro. to TPE**

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201008 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 100
**c.** Enter Contact Hours per week in boxes.
LECture 2 LAB 0 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: **Survey of Plastics and Elastomer Technology** (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU

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

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 2 **i.** Maximum Credit Hours 2

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.

This is a survey course designed to acquaint *potential* Plastics Majors and NON Plastics Majors with basic concepts of Plastics and Elastomer Technology. Students will become familiar with history, basic materials, application/design, processing, markets, and future of Plastics and Elastomer Technology. Students require no previous background in the subject.

**p.** Term(s) Offered: Fall (See instructions for listing.) **q.** Max. Section Enrollment: 30

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
**Instructor permission**

---

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __ **SCARRES** __ **SCAPREQ** __

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201008 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 115
**c.** Enter Contact Hours per week in boxes.
LECture 1 LAB 3 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: **Plastics Product Manufacturing** (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU
Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 3 **i.** Maximum Credit Hours 3

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.
This course assumes the student has little or no prior knowledge of the manufacturing activities of making plastics or rubber products. The course provides the student with an "awareness" level of the basics of making polymer based products as a manufacturing industry.

Term(s) Offered: Fall (See instructions for listing.) **q.** Max. Section Enrollment: 12

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
**Instructor permission**

---

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

*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

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**Date Rec'd: ____ Date Completed: ____ Entered: SCACRSE __ SCADETL __SCARRES __ SCAPREQ __**

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201101 (Spring)

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 120
**c.** Enter Contact Hours per week in boxes.
Lecture 3 LAB ☐ INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: **Plastics and Polymers Materials Selection 1**

**e.** College Code: TE **f.** Department Code: PLRU

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

**g.** Type: ☐ Variable X Fixed **h.** Minimum Credit Hours 3 **i.** Maximum Credit Hours 3

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

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

**l.** Grade Method: Check (x) X Normal Grading ☐ Credit/No Credit only (Pass/Fail)

**m.** Does proposed new course replace an equivalent course? Check (x) ☐ Yes X No

**n.** Equivalent course: Prefix ☐ Number ☐ See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.

The course focuses on the taxonomy of plastics and polymer materials, an overview of their key characteristics, an overview of the companies that produce these materials, and the relationship between materials costs and feedstock materials. Additionally, there is an overview of additive materials and their basic influences on plastic compounds. There will be an overview of the sustainability issues associated with plastics materials and plastic product manufacturers

**p.** Term(s) Offered: spring **q.** Max. Section Enrollment: 30

**r. Prerequisites/Co-requisites/Restrictions:**
**PPET 100 or Instructor permission**

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**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

*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

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**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# CREATE NEW COURSE

**FORM F**

**Course Data Entry Form**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201101 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET

**b.** Number: 127

**c.** Enter Contact Hours per week in boxes.
LECture 3 LAB 3 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: **Introduction to Processing** (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU

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

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 4 **i.** Maximum Credit Hours 4

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.

This is a polymer processing course that assumes the student has no prior knowledge of typical methods used to create polymer products. The course is directed toward providing the student with a "functional" level of the operations of the FSU processing lab and of the core polymer industry processing equipment.

**p.** Term(s) Offered: Spring (See instructions for listing.) **q.** Max. Section Enrollment: 12

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**

**PPET 115 or Instructor permission**

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**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __ **SCARRES** __ **SCAPREQ** __

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201105 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 193
**c.** Enter Contact Hours per week in boxes.
LECture 0 LAB 0 INDependent Study – Check (x) ☐
Practicum: 400-hours Seminar: ☐

**d.** Course Title: Industrial Internship (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU
Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 4 **i.** Maximum Credit Hours 4

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

**l.** Grade Method: Check (x) Normal Grading X Credit/No Credit only (Pass/Fail)

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.

This course places students into an industrial setting for ten weeks of supervised, on-the-job training with a plastics / rubber manufacturer, processor, or related firm. The professional experience that the student will receive is a combined effort of the training site, university, and student. Students will be involved in the production of polymeric products and the daily activities of engineers in the plastics / rubber industry.

**p.** Term(s) Offered: F, Sp, Su (See instructions for listing.) **q.** Max. Section Enrollment: 30

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
**Acceptance into AAS PPET program**

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**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201201 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 211
**c.** Enter Contact Hours per week in boxes.
LECture 3 LAB 6 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: Intro. to Injection Molding (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU
Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 5 **i.** Maximum Credit Hours 5

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.
This course will provide the student with knowledge and experience in solving common problems encountered running injection molding production equipment. The course seeks to relate the machine control parameters to their effects on the process and ultimately to the final part quality. The student will set-up processes for production runs. Added emphasis will be placed on primary troubleshooting and process optimization.

**p.** Term(s) Offered: Spring (See instructions for listing.) **q.** Max. Section Enrollment: 12

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
**PPET 127**

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**UCC Chair Signature/Date:** ___/___/___

**Academic Affairs Approval Signature/Date:** ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# CREATE NEW COURSE

**FORM F**

**Course Data Entry Form**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201108 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 212
**c.** Enter Contact Hours per week in boxes.
LECture 3 LAB 3 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: **Plastics Product Development 1** (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU

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

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 4 **i.** Maximum Credit Hours 4

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.

This course will provide the student with the knowledge of plastics product and tool design as it pertains to successful production tooling. Special emphasis will be given to understanding the role of the following critical elements in Plastic Product and Tool Design: Plastic Material selection, Mold Filling analysis, Mold Components and their functions, Compression / Transfer Mold Design, Injection Mold Design, Plastic Part Design Criteria, Blow Mold Design, Extrusion / Die Design, Rotatioinal Mold Design, Thermoform Mold Design, Heating and Cooling of Molds, Runner and Gate Design, Tool Steels / Heat Treating selection, Geometric Dimensioning and Tolerancing.

**p.** Term(s) Offered: Fall (See instructions for listing.) **q.** Max. Section Enrollment: 12

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
**PPET 100, ETEC 140**

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**UCC Chair Signature/Date:** **Academic Affairs Approval Signature/Date:**

_____ ___/___/___ _____ ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __ **SCARRES** __ **SCAPREQ** __

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

---

**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 (6 digit code only): 201108[ ] **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 220
**c.** Enter Contact Hours per week in boxes. LECture 2 LAB 0 INDependent Study – Check (x) ☐
Practicum: [ ] Seminar: [ ]

**d.** Course Title: **Introduction to Medical devices** **e.** College Code: TE **f.** Department Code: PLRU

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

**g.** Type: ☐ Variable X Fixed **h.** Minimum Credit Hours 2 **i.** Maximum Credit Hours 2

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes X No

**k.** Levels: Check (x) X Undergraduate ☐ Graduate ☐ Professional

**l.** Grade Method: Check (x) X Normal Grading ☐ Credit/No Credit only (Pass/Fail)

**m.** Does proposed new course replace an equivalent course? Check (x) ☐ Yes x No

**n.** Equivalent course: Prefix Number

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.

This course is designed to provide an introductory overview of the medical device industry, and its unique design and manufacturing challenges. The course first examines the industry itself, reviewing basic industry statistics, current trends, and the many types of products that make up the medical device industry.
The course is focused on defining and understanding of medical devices in the growing medical market. The other accompanying theme is to gain an understanding of device design and how to innovate to create and then sustain a medical product.

**p.** Term(s) Offered: Any (See instructions for listing.) **q.** Max. Section Enrollment: 30

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
Entrance into the Polymer and Plastics technology program or permission of the instructor

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**UCC Chair Signature/Date:**
**Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval**

_____

___/___/___

*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 Rec'd: ____ Date Completed: ____ Entered: SCACRSE __ SCADETL __SCARRES __ SCAPREQ __**

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201201 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 223
**c.** Enter Contact Hours per week in boxes.
LECture 3 LAB 3 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: **Plastics Testing** (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU
Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 4 **i.** Maximum Credit Hours 4

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.
This course acquaints students with the concepts of : The procedures used in evaluating plastic materials, test samples, and molded parts; Standard testing methods used for evaluation of plastic materials, in particular ASTM and ISO; Interpretation of testing results with respect to raw materials selection, processing parameters, and part design considerations; Basic quality control / quality assurance techniques related to plastic testing.

**p.** Term(s) Offered: Spring (See instructions for listing.) **q.** Max. Section Enrollment: 12

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
**PPET 100, MATH 115, CHEM 121**

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**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __ **SCARRES** __ **SCAPREQ** __

*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 Rec'd: ____ Date Completed: ____ Entered: SCACRSE __ SCADETL __SCARRES __ SCAPREQ __**

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201108 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 225
**c.** Enter Contact Hours per week in boxes.
LECture 2 LAB 0 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: **Intro. to Plastics Packaging** (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU

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

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 2 **i.** Maximum Credit Hours 2

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.
This is an introductory polymer technology course in the AAS Plastics and Polymer Engineering Technology curriculum. The course assumes the student has prior knowledge of polymer materials, processing methods, and the plastics industry. The course provides the student with a working knowledge of the basics of the plastics packaging industry. The student will be exposed to the requirements parameters of, issues facing, and career opportunities within this growing segment of the plastics industry.

**p.** Term(s) Offered: Fall (See instructions for listing.) **q.** Max. Section Enrollment: 30

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
**Acceptance into AAS PPET program or Instructor permission**

**UCC Chair Signature/Date:** _____ ___/___/___

**Academic Affairs Approval Signature/Date:** _____ ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201008 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a**. Course Prefix: PPET
**b**. Number: 280
**c**. Enter Contact Hours per week in boxes.
LECture 1 LAB 3 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d**. Course Title: **Introduction to Rubber Technology** (Limit to 30 characters/spaces.)

**e**. College Code: TE **f**. Department Code: PLRU

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

**g**. Type: ☐ Variable x Fixed **h**. Minimum Credit Hours 2 **i**. Maximum Credit Hours 2

**j**. May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k**. Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m**. Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n**. Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.
This is an introductory rubber technology course in the AAS Plastics and Polymer Engineering Technology curriculum. The course assumes the student has no, or limited, prior knowledge of the rubber industry. The course is directed toward providing the student with a foundation of rubber technology, such as the nature of the industry, applications and basic processing techniques, and the safety of operating equipments commonly used in the industry, before entering BS program of Rubber Engineering Technology.

**p**. Term(s) Offered: Fall (See instructions for listing.) **q**. Max. Section Enrollment: 12

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
**PPET 100 or Instructor permission**

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**UCC Chair Signature/Date:** ___/___/___

**Academic Affairs Approval Signature/Date:** ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# CREATE NEW COURSE
## Course Data Entry Form

**FORM F**

**Create New Course**
**Rev. 07/23/07**

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**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 (6 digit code only): 201008 **Examples: 200801(Spring), 200805(Summer), 200808(Fall)**
**Note: The first four digits indicate year, the next two digits indicate month in which term begins.**

**II. PROPOSED FOR NEW COURSE:** Complete all sections a through r, See manual for clarification.

**a.** Course Prefix: PPET
**b.** Number: 284
**c.** Enter Contact Hours per week in boxes.
LECture 2 LAB 0 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d.** Course Title: Introduction to Thermoplastic Elastomers(TPE) (Limit to 30 characters/spaces.)

**e.** College Code: TE **f.** Department Code: PLRU

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

**g.** Type: ☐ Variable x Fixed **h.** Minimum Credit Hours 2 **i.** Maximum Credit Hours 2

**j.** May Be Repeated for Added Credit: Check (x) ☐ Yes x No

**k.** Levels: Check (x) x Undergraduate ☐ Graduate ☐ Professional

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

**m.** Does proposed new course replace an equivalent course? Check (x) Yes ☐ No-X

**n.** Equivalent course: Prefix Number See instructions on Replacement courses.

**o. CATALOG DESCRIPTION** – Limit to 75 words – PLEASE BE CONCISE.

. This course acquaints students with various categories of TPE, such as thermoplastic olefins (TPO), thermoplastic urethanes (TPU), ionomers, and thermoplastic vulcanizates (TPV). Students will learn the unique properties of TPEs because of their morphology and processability so that they behave like "rubber" while being able to be processed like thermoplastics. In addition to the characterization and fabrication of different TPEs, students will also learn the "dynamic vulcanization" to prepare different TPVs.

**p.** Term(s) Offered: Fall (See instructions for listing.) **q.** Max. Section Enrollment: 30

**r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces.**
PPET 100 or instructor approval

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**UCC Chair Signature/Date:** ___/___/___

**Academic Affairs Approval Signature/Date:** ___/___/___

*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 Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ**

# DELETE COURSE
## Course Data Entry Form

**FORM F**

**Delete Course**
**Rev. 7/23/07**

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**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

a. Term Effective: Term [Fall] Year [2010] See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

| a. Course Prefix | b. Number | c. Enter Contact Hours per week in boxes. |
|---|---|---|
| [PLTS] | [100] | LECture [2] LAB [0] INDependent Study – Check (x) [ ]<br>Practicum: [ ] Seminar: [ ] |

d. Full Course Title: [Survey of Plastics and Elastomer Technology]

---

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd: ____ Date Completed: ____ Entered: SCACRSE __ SCADETL __SCARRES __ SCAPREQ __**

# DELETE COURSE
## Course Data Entry Form

## FORM F

**Delete Course**
**Rev. 7/23/07**

**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a**. Term Effective: Term Spring Year 2011 See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

**a**. Course Prefix: **PLTS**

**b**. Number: **110**

**c**. Enter Contact Hours per week in boxes.
LECture 2 LAB 3 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d**. Full Course Title: **Intro. to Plastic Technology**

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd: ____ Date Completed: ____ Entered: SCACRSE __ SCADETL __SCARRES __ SCAPREQ __**

# DELETE COURSE
## Course Data Entry Form

## FORM F

**Delete Course**
**Rev. 7/23/07**

**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a.** Term Effective: Term [Spring] Year [2011] See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

**a.** Course Prefix
[PLTS]

**b.** Number
[121]

**c.** Enter Contact Hours per week in boxes.
LECture [3] LAB [3] INDependent Study – Check (x) [ ]
Practicum: [ ] Seminar: [ ]

**d.** Full Course Title: [Plastics Processing 1]

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

# FORM F

**Delete Course**
**Rev. 7/23/07**

**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a**. Term Effective: Term [Summer] Year [2011] See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

| **a**. Course Prefix | **b**. Number | **c**. Enter Contact Hours per week in boxes. |
|---|---|---|
| [PLTS] | [193] | LECture [0] LAB [0] INDependent Study – Check (x) [ ]<br>Practicum: [X] Seminar: [ ] |

**d**. Full Course Title: [**Industrial Internship**]

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

**FORM F**

**Delete Course**
**Rev. 7/23/07**

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**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

a. Term Effective: Term [Fall] Year [2011] See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

a. Course Prefix
[PLTS]

b. Number
[211]

c. Enter Contact Hours per week in boxes.
LECture [2] LAB [8] INDependent Study – Check (x) [ ]
Practicum: [ ] Seminar: [ ]

d. Full Course Title: [**Plastics Processing 2**]

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**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

## FORM F

Delete Course
Rev. 7/23/07

I. **ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

a. Term Effective: Term [Spring] Year [2012] See instructions.

II. **CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

a. Course Prefix
[PLTS]

b. Number
[212]

c. Enter Contact Hours per week in boxes.
LECture [3] LAB [5] INDependent Study – Check (x) [ ]
Practicum: [ ] Seminar: [ ]

d. Full Course Title: [**Plastics Product & Tool Design 1**]

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

# FORM F

**Delete Course**
**Rev. 7/23/07**

**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a**. Term Effective: Term Fall Year 2010 See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

**a**. Course Prefix: **PLTS**

**b**. Number: **220**

**c**. Enter Contact Hours per week in boxes.
LECture 4 LAB 0 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d**. Full Course Title: **Plastics and Elastomeric Materials**

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd: ____ Date Completed: ____ Entered: SCACRSE __ SCADETL __SCARRES __ SCAPREQ __**

# DELETE COURSE
## Course Data Entry Form

## FORM F

**Delete Course**
**Rev. 7/23/07**

I. **ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

a. Term Effective: Term [Spring] Year [2012] See instructions.

II. **CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

a. Course Prefix
[PLTS]

b. Number
[223]

c. Enter Contact Hours per week in boxes.
LECture [4] LAB [3] INDependent Study – Check (x) [ ]
Practicum: [ ] Seminar: [ ]

d. Full Course Title: [**Plastics Testing & Physical Properties**]

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

# FORM F

**Delete Course**
**Rev. 7/23/07**

**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a**. Term Effective: Term Spring Year 2011 See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

**a**. Course Prefix: **RUBR**

**b**. Number: **110**

**c**. Enter Contact Hours per week in boxes.
LECture 2 LAB 3 INDependent Study – Check (x) ☐
Practicum: ☐ Seminar: ☐

**d**. Full Course Title: **Intro. to Rubber Technology**

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

**FORM F**

**Delete Course**
**Rev. 7/23/07**

**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a**. Term Effective: Term [Spring] Year [2011] See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

**a**. Course Prefix [RUBR]

**b**. Number [121]

**c**. Enter Contact Hours per week in boxes.
LECture [2] LAB [3] INDependent Study – Check (x) [ ]
Practicum: [ ] Seminar: [ ]

**d**. Full Course Title: [**Rubber Processing 1**]

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

# FORM F

Delete Course
Rev. 7/23/07

**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a.** Term Effective: Term [Summer] Year [2011] See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

**a.** Course Prefix [RUBR]

**b.** Number [193]

**c.** Enter Contact Hours per week in boxes.
LECture [0] LAB [0] INDependent Study – Check (x) [ ]
Practicum: [X] Seminar: [ ]

**d.** Full Course Title: [**Rubber Technology Internship**]

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

**FORM F**

**Delete Course**
**Rev. 7/23/07**

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**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a.** Term Effective: Term [Fall] Year [2011] See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

| **a.** Course Prefix | **b.** Number | **c.** Enter Contact Hours per week in boxes. |
|---|---|---|
| [RUBR] | [211] | LECture [2] LAB [6] INDependent Study – Check (x) [ ]<br>Practicum: [ ] Seminar: [ ] |

**d.** Full Course Title: [**Rubber Processing 2**]

---

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# DELETE COURSE
## Course Data Entry Form

## FORM F

Delete Course
Rev. 7/23/07

I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.

Note: Complete each section.

The course described below will be moved to inactive status.

a. Term Effective: Term [Fall] Year [2011] See instructions.

II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:

Include the information that is in the current course database.

a. Course Prefix
[RUBR]

b. Number
[212]

c. Enter Contact Hours per week in boxes.
LECture [1] LAB [3] INDependent Study – Check (x) [ ]
Practicum: [ ] Seminar: [ ]

d. Full Course Title: [Rubber Tool Design & Construction]

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

Date Rec'd: ____ Date Completed: ____ Entered: SCACRSE __ SCADETL __SCARRES __ SCAPREQ __

# DELETE COURSE
## Course Data Entry Form

## FORM F

Delete Course
Rev. 7/23/07

**I. ACTION TO BE TAKEN: DELETE COURSE FROM CATALOG.**

Note: Complete each section.

The course described below will be moved to inactive status.

**a**. Term Effective: Term [Spring] Year [2012] See instructions.

**II. CURRENT COURSE TO BE DELETED FROM THE ACTIVE STATUS:**

Include the information that is in the current course database.

**a**. Course Prefix [RUBR]

**b**. Number [223]

**c**. Enter Contact Hours per week in boxes.
LECture [3] LAB [3] INDependent Study – Check (x) [ ]
Practicum: [ ] Seminar: [ ]

**d**. Full Course Title: [**Rubber Measure and Testing**]

**UCC Chair Signature/Date:**

_____ ___/___/___

**Academic Affairs Approval Signature/Date:**

_____ ___/___/___

**Office of the Registrar use ONLY**

**Date Rec'd:** ____ **Date Completed:** ____ **Entered: SCACRSE** __ **SCADETL** __**SCARRES** __ **SCAPREQ** __

# Expected Implementation Date

## Plastics & Polymer Engineering Technology A.A.S.

---

**The expected implementation of the new PPET A.A.S. Program will begin in the Fall Semester 2010.**

**Specific course introduction is as follows:**

**Fall 2010**
**PPET100**
**PPET115**

**Spring 2011**
**PPET120**
**PPET127**

**Summer 2011**
**PPET193**

**Fall 2011**
**PPET 212**
**Major Elective**

**Spring 2012**
**PPET211**
**PPET223**

**Form PCAF**

# Ferris State University

Preliminary Curriculum Approval Form

**Directions:** This form should be completed using 11-point font or larger, and should be no longer than six pages (excluding the signature/comment pages). For purposes of expediting the preliminary approval process, forms may be forwarded electronically by the initiator and from one administrative level to another.

| | |
|---|---|
| Name(s) of proposal initiator(s): | Larry Schult |
| Department(s)/College(s): | Plastics and Rubber Engineering Technology |

Type of curriculum change (check one)

| | |
|---|---|
| X | New degree/major |
| ☐ | New minor requiring new courses/resources |
| ☐ | New concentration in existing degree program |
| ☐ | Curricular customization of existing program for off-campus cohort group |
| ☐ | New certificate requiring 3 or more new courses and/or new resources |
| ☐ | Existing program redirection or shift in emphasis if 3 or more new courses and/or new resources are required |

1. Name of degree, major, concentration, certificate, or minor. Briefly describe the curriculum plan/template. *PLASTICS AND POLYMER ENGINEERING TECHNOLOGY (PPET)*

   This 2 year program will prepare the student for successful employment in the plastics and/or rubber industries. The student could gain an AAS Degree in Plastics and Polymer Engineering Technology after completion and pursue successful employment in either industry. The program replaces the existing Plastics Technology AAS Degree and the existing Rubber Technology AAS Degree with a common core of knowledge that is focused on these polymers as application materials. It will also prepare the student for entry into a related BS Degree program – currently Plastics Engineering Technology or Rubber Engineering Technology (or both). There may be other related BS Degree programs developed in the future. The curriculum has a built-in course which allows the student to experience one of the future degrees to assist in the decision as to which one to pursue.

2. Target date for implementation. Fall Semester 2010

3. Briefly explain the rationale for this initiative. If the initiative involves customization of an existing program for delivery to an off-campus cohort group, also explain the nature of the proposed curricular customization.

   When originally established, the AAS Degree in Rubber Technology was closely modeled after the successful AAS Plastics Technology Program (as was the BS Degree program). The only class differences were the core classes in each (which also had similar focus between the two curriculums). The new proposed curriculum marries the study of plastics and rubber together and focuses the study of them from a more polymer material basis. The material approach makes this a natural merger of the 2 programs. As such, the traditionally smaller enrollment numbers of the current Rubber AAS Degree Program will no longer exist. Students with both an interest in rubber industry and plastics industry will acquire the same coursework, knowledge, and skill set relative to polymers as applied engineering materials. Also, many students are dual enroll currently.

4. Are there similar programs at other Michigan universities? If so, where? What is the enrollment in the other programs? NO

5. Briefly explain any similarities of the proposed initiative (program objectives and/or curriculum) with already established FSU or KCAD programs:
   It is the combination of the current AAS Degree in Plastics Technology and the current AAS Degree in Rubber Technology.

6. Briefly describe indicators of the employment market for students completing this initiative, including sources used for employment information/data.
   The prior enrollment record for both programs shows that most students choose to continue on to the respective (or other) BS Degree Program. Those who have not transitioned to the advanced degree have procured a direct manufacturing activities position within the respective industry. The placement rate (based on grad surveys and industry feedback) has historically been 100% to near 100%.

7. Briefly describe indicators of potential student interest/demand for the new initiative, including sources used for student market information/data.
   The new curriculum is a combination of two existing ones, so the student demand is anticipated to be the same as what past history has shown.

8. To what extent will this initiative draw new students to FSU or KCAD? To what extent will it draw students from existing programs?
   The initiative has the potential to draw more students than historically what has occurred due to the reduction in time to gain employable knowledge and skill in both the plastics and rubber material disciplines concurrently.

9. Approximately how many students are expected to enroll?

   45 in the first year? 60 after three years?

10. At which FSU campuses/regional centers or other sites will the initiative be offered?
    Main Campus Big Rapids

11. Will Internet or other distance learning technology be used for course/program delivery? Describe.
    Anticipated on-line delivery of lecture component courses in the future. Lab coursework is not possible to do with the variety of equipment involved, and housed on campus.

**Complete questions 12, 13, 14 in consultation with department head/chair and/or dean.**

12. Provide a rough estimate of the resources needed to implement the initiative:

| | Start-up | After Three Years |
|---|---|---|
| Supply and expense | $0 | $0 |
| Equipment | $0 | $0 |
| Full-time faculty | $0 | $0 |
| Overload/adjunct faculty | $0 | $0 |
| Other | 0 | 0 |

| | | | |
|---|---|---|---|
| Estimate of Library Resources | X Adequate | Some new resources needed | Significant number of resources needed |

13. Project the resources that could come from reallocation within the department or college and the new resources that would be required. NONE

14. Are there new space needs? If so, how much? How would the space be used? Has existing space been identified? If so, where? Is renovation/remodeling necessary? N.A.

15. Is there professional accreditation for the program? Is it required or voluntary? Will accreditation be sought, and when? What will be the one-time and ongoing costs of accreditation?
    No, voluntary. Possibly in the next 3-5 years, unknown at this time.

16. Has there been preliminary discussion with other departments/colleges that will be involved in course/program delivery? If yes, what was the feedback?
    Yes, the curriculum has minimal changes external of the program and there was no lack of support.

**Department Head/Chair's signature:** _____ Date_____
If this is an interdepartmental initiative, include additional Department Head/Chair signatures

Comments:

**Dean's or KCAD President's signature:** __Tom Oldfield_____Date_3-4-10__

- For cross-college initiatives, include additional signature(s) of Dean(s)
- For KCAD initiatives, include KCAD President's signature
- For existing FSU-Big Rapids programs customized for off-campus delivery to a cohort group, include College and UCEL Deans' signatures

Comments:

**Provost/Vice President for Academic Affairs' signature:**

_____Date_____
**or Chancellor/VP of FSU/GR's signature**

☒Approved Approval indicates permission to develop the full proposal. It does not assure final approval.

Comments and/or suggestions:

This request for a new degree did not meet the March Academic Senate meeting deadline for approval for Fall 2010. If the UCC were to approve the degree yet this semester, the UCC would need to ask for special approval action from the Senate. If Senate would approve, the degree could be presented to the Ferris board at the next available meeting and at the next available President's Council meeting.

☐Not approved

Explanation:

c. Initiator(s)
Department Head/Chair(s)
Deans' Council and KCAD President
FSU University Curriculum Council
FSU Academic Senate and KCAD Senate
VPAA or Chancellor/VP of FSU/GR
FSU Intranet

**Form PCAF**

# Ferris State University

Preliminary Curriculum Approval Form

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2. Target date for implementation. Fall Semester 2010

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**Complete questions 12, 13, 14 in consultation with department head/chair and/or dean.**

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|---|---|---|
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| Equipment | $0 | $0 |
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| Other | 0 | 0 |

| | | | |
|---|---|---|---|
| Estimate of Library Resources | X Adequate | Some new resources needed | Significant number of resources needed |

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15. Is there professional accreditation for the program? Is it required or voluntary? Will accreditation be sought, and when? What will be the one-time and ongoing costs of accreditation?
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**Department Head/Chair's signature:** _____ Date_____
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Comments:

**Dean's or KCAD President's signature:** __Tom Oldfield_____Date_3-4-10__

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Comments:

**Provost/Vice President for Academic Affairs' signature:**

_____Date 3-5-10
**or Chancellor/VP of FSU/GR's signature**

☒Approved Approval indicates permission to develop the full proposal. It does not assure final approval.

Comments and/or suggestions:

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☐Not approved

Explanation:

c. Initiator(s)
Department Head/Chair(s)
Deans' Council and KCAD President
FSU University Curriculum Council
FSU Academic Senate and KCAD Senate
VPAA or Chancellor/VP of FSU/GR
FSU Intranet