Course Material Submission Form
OAN Match Definition Form

Today's Date:	1-18-2008

Use this table to specify institutional data	
College/University:	Central State University
Name and title of individual submitting on behalf of the college/university	
Name:	LaTonya Branham
Title:	Associate Registrar
Address:	1400 Brush Row Road
Email:	lbranham@centralstate.edu
Phone:	(937) 376-6149
Fax:	(937) 376-6188

Indicate the reason for this submission:

☐ New Course Match
☐ Revised Materials - Faculty review panel requested clarification
☐ Revised Materials - Institution submitting additional information
☒ Revised Materials - Course content revised by institution, including situations of both content and credit hour change
☐ Revised Materials – Other

Describe specific revisions being made for "Revised Materials" submissions:
1- Revised course title
2- Revised course description

Institutional Notes to Faculty Panel (the institution is encouraged to add any additional clarifications for this submission):

Table 1 – Use this table to describe the course match for which materials are being submitted for the first time or revised.

Proposed effective year and term of match (Final effective date will depend on actual approval of match by faculty panel. Effective Year and Term is the first term in which students taking the course will receive matching credit.)

Semester institutions complete this row:

2009 Academic Year ☐ Summer ☒ Autumn ☐ Spring

Quarter institutions complete this row:

20 Academic Year ☐ Summer ☐ Autumn ☐ Winter ☐ Spring

Ohio Articulation	**OET008**

Number (OAN) (Use a separate form for each OAN.):	
Number of courses in the match:	1 (up to 10)
Current status of match:	☐ First time submission ☐ Approved ☐ Submitted ☐ Disapproved ☐ Error ☒ Resubmitted ☐ Pending ☐ Error with enrollment ☐ Not submitted

Course or Courses being matched to or currently matched to the OAN listed above. (Course Numbers must be exactly what will appear on a student's transcript.):		**Course Number**
	1.	INT 3550
	2.	
	3.	
	4.	
	5.	
	6.	
	7.	
	8.	
	9.	
	10.	

Table 2 - Use this table to submit course materials for the first time or to revise previously submitted course materials. You must submit each course in a separate form, repeating the match definition information in Table 1 above for each form submitted.

Course Number. (Course Numbers must be exactly what will appear on a student's transcript.):	INT 3550	**Course Title**:	Applied Strength of Materials

Hours (be sure that the hours for this course matches the hours in the OAN.)

☒ **Semester Hours** ☐ **Quarter Hours**

Total Credit Hours	3	**Lecture Hours**	2	**Laboratory Hours (if applicable)**	2

Course Placement in Major:	☒ Major Requirement ☐ Major Elective ☐ Other

Pre-Requisite Course work (if applicable) (Be sure this is consistent with the OAN definition):
INT 2460 – Applied Statics

Catalog/Course Description:
INT 3550 Applied Strength of Materials: (I;3) Analyze stress, strain in a member carrying tensile or compressive loads. Compute shear stress, torsional shear stress, and combined loadings in beams. Determine stress concentration in members. Study deflection of beams due to a variety of loading and support. Two lecture periods and two laboratory periods per week. Prerequisite: INT 2460.

Texts/Outside Readings/Ancillary Materials (Be sure that the text meets performance expectations)**:**

Text (mandatory): Applied Statics and Strength of Materials, Leonard Spiegel, P.E., and George F. Limbrunner, P.E., 4th Edition, 2004, Prientice Hall, ISBN: 0-13-093826-2, Supplies/Materials: Scientific Calculator

Course Objectives and/or Plan of Work:

(Provide a clear indication of how the course objectives align with the matched OAN's learning outcomes. This will facilitate the faculty panel course review process.)

Course Objectives and Competencies:

1. Study the concepts of stress, strain, internal loads within a structure and elementary structural analysis.
2. Study mechanical stresses due to axial, torsional and bending loads.
3. Compute Direct shear stress.
3. Analys stress concentraions and conduct stress analysis.
4. Compute shear stress in beams
5. Compute deflection of beams due to variety of loading and support.
6. Study the mechanical properties of engineering materials.
7. Determine the allowable stresses, and the factor of safety for practical engineering applications.
8. Study cases of combined loading effects using Mohr's stress circle.
9. Conducts experiments to study coplanar force systems, linear deflection in beams and torsional deflection in bars.
10. Conduct experimental stress analysis by means of photo-elasticity to demonstrate stresses due to axial loading, pure bending and combined load cases.

Course Educational Outcomes:

1. Practical engineering knowledge in area of the course including: concepts of statics, stress, strain, internal loads within a structure and elementary structural analysis, study the mechanical properties of engineering materials, torsion and bending stresses, allowable stresses, factor of safety for practical engineering applications, combined stresses, and Mohr's circle.
2. Conduct experimental stress analysis by means of photo-elasticity to demonstrate stresses due to axial loading, pure bending and combined load cases.
3. Identify, formulate and solve engineering problems Use techniques, skills and modern engineering tools.
4. Proficiency in solving engineering problems utilizing the knowledge of Applied Mechanics and Strength of Materials.
5. Build professional ethics and attitude.

Description of Assessment and/or Evaluation of Student Learning (The

assessment plan needs to be appropriate for the expected rigor of the course) :

Course Policies/Evaluation Policy

The following activities/methods (if applicable) will be used to evaluate students:

1. Attendance

Attendance will be taken every class. Notes will be made as of absence execuse(s) or tardiness, etc. Interaction of the students and positive learning attitude during class activities are required and encouraged.

2. Tests

Three Tests will be given during the semester. Each test is considered to be comprehensive. The tests will be announced to the students on a specific day and time. Plan to take the tests on the scheduled dates.

3. Quizzes

Quizzes will be given with or without announcement. The quizzes are designed to test the student's knowledge on the course material. The quizzes will be graded and returned by next class time. The quiz will be discussed to assess the student's understanding and comprehension of the course material.

4. Laboratory Experience

Lab experiments are designed to apply course material in real case studies and applications. Feedback through lab reports and students interactions in the lab periods are effective assessment tools that enables the instructor to improve or enhance the teaching effectiveness within the class.

Master Syllabi and Working Syllabi (if both are used):

INT 3550 Applied Strength of Materials: (I;3) Analyze stress, strain in a member carrying tensile or compressive loads. Compute shear stress, torsional shear stress, and combined loadings in beams. Determine stress concentration in members. Study deflection of beams due to a variety of loading and support. Two lecture periods and two laboratory periods per week. Prerequisite: INT 2460.

Text Book: (Text is Required)

Applied Statics and Strength of Materials, Leonard Spiegel, P.E., and George F. Limbrunner, P.E., 4th Edition, 2004, Prentice-Hall, ISBN: 0-13-093826-2

Supplies/Material: Scientific Calculator

Course Days and Times: MW 11:00 – 12:50 PM

Faculty Name: Dr. Peter Dreher PhD, P.E.

Faculty Office: Jenkins Hall, Room 114H

Faculty Contact Information: (937) 376-6401 (phone)
pdreher@centralstate.edu (e-mail)

Office Hours: M 4-6 PM T 10-11AM, 3-6PM
W 10-11AM, 4-6 PM R 10-11 AM

About the Instructor:

Dr. Dreher is an assistant professor in the Manufacturing Engineering Department at Central State University since 2006. He has a PhD in Aeronautical Engineering from the Air Force Institute of Technology, a master's degree in Mechanical Engineering from MIT, and bachelors' degrees in Mechanical, Nuclear, and Chemical Engineering from MIT as well. He has worked in industry for 25 years. He is currently teaching Applied Mechanics and Strength of Materials, Hydraulics and Pneumatics, and Principles of Manufacturing. His research interests include fuel cells, nano-composites, mechanical design, finite-element analysis and thermal management systems. He is currently conducting research on Low Pressure Airbags sponsored by the National Institutes of Health, Washington, D.C. Dr. Dreher is a licensed professional engineer (P.E.) in the State of Ohio, New York, and Massachusetts and is a member and past Chairman of the Society of Manufacturing Engineers (SME), Affiliate Societies Council, Inventors Council of Dayton, American Institute of Aeronautics and Astronautics (AIAA) and the Society of Automotive Engineers (SAE).

Course Topics:

1. Study the concepts of stress, strain, internal loads within a structure and elementary structural analysis.
2. Study mechanical stresses due to axial, torsional and bending loads.
3. Compute Direct shear stress.
3. Analys stress concentraions and conduct stress analysis.
4. Compute shear stress in beams
5. Compute deflection of beams due to variety of loading and support.
6. Study the mechanical properties of engineering materials.
7. Determine the allowable stresses, and the factor of safety for practical engineering applications.
8. Study cases of combined loading effects using Mohr's stress circle.
9. Conducts experiments to study coplanar force systems, linear deflection in beams and torsional deflection in bars.
10. Conduct experimental stress analysis by means of photo-elasticity to demonstrate stresses due to axial loading, pure bending and combined load cases.

Laboratory Sessions:

Four laboratory assignments will be conducted to emphasize the course principles and topics presented during the course. A laboratory report is required for each of the following sessions:

Computer and Internet Usage:

The computer and the Internet availability have increased significantly the ability of

engineers to conduct literature search and enhance the learning effectiveness. The instructor will request Internet searches to complement class assignments and lectures. This advantage will be exploited in teaching the principles of Applied Mechanics and Strength of Material.

Instructional Methods / Course Format:

To achieve the course objectives, fundamental knowledge and skills including trigonometry, algebra, SI and English units, coordinate geometry, graphics presentation are essential and required for the course. For those students not sure of their abilities in any of these areas, standard textbooks on the subject are available in the library, or on the Internet.

A Lecture/Discussion and Recitation format would be typical. Various problem-solving approaches will also be presented. Examples of real world applications of Statics and Strength of Materials will be presented to expand understanding of students of the importance of various core courses in their engineering training leading to a successful practice of engineering. The real world applications of Strength of Materials are intended to strengthen the classroom lectures and presentations.

Assessment of the student performance is continuously applied throughout the course. Quizzes, tests, homework assignments, and laboratory reports are used as tools for assessing the student's progress and performance. Two Mid Term grades are submitted to the registrar by the fifth and the tenth weeks of the semester. The final grade is submitted at the end of the semester. The final grade reflects the combined performance for all activities and assessment tools during the course.

Course Policies:

1. Attendance Policy: Regular class attendance is required and necessary in this course. When the number of unexcused absences exceeds 4 semester credit hours, the student will automatically receive an F in this course. This is a university policy and there are no exceptions (see University Catalogue). Reserve the exercise of unexcused absences for emergencies. All excused absences require documentation from the proper authorities (e.g. Health Center, medical personnel, law enforcement personnel, Career Services office, funeral director, choir director, band director, Dean of Students, athletic coach) within ten days from the day of absence.

2. Course Demeanor Policy With Respect To Textbooks: Students are required to have a personal copy of their textbooks on the first day of the class, and make diligent effort to understand the course materials as presented and outlined in the syllabus and the textbook. Since the textbook reinforces the concepts presented during the lectures, having a textbook will be a definite help, it is a necessary, but by no means a sufficient condition for passing the course. The student must read

the textbook to understand the principles being conveyed and translate this into superior solutions of homework, quizzes, and examination problems. May it be emphasized; having a textbook will enable the student to keep pace with course progressions, the homework assignments and the class participation requirements all of which are intense.

Students should refrain from copying textbooks since this practice is unethical and serves as a bad example to other students. The MFE Department discourages this practice. Of equally great importance, students should not encroach on other students who have made the investments in the purchase of a textbook. The students who have made an investment in the purchase of a textbook should be allowed the right to a peaceful, quiet and undisturbed enjoyment of the investment and seriousness they have made in approaching the course. Failure to obtain a textbook in reasonable time puts the student's course performance in jeopardy.

3. CBI College Class Demeanor:

The student is expected to perform in class in a professional manner, e.g., be punctual and attend all classes, actively participate in class, dress appropriately (on Wednesdays), and be attentive during class. Negative behavioral patterns, e.g., unexpected absences (up to 4 hours), tardiness, class disruptions, men wearing hats or caps, eating, drinking or sleeping in class, or any other misbehavior could result in a reduction of the student's final grade.

4. Course Homework Assignment Policy: All homework assignments to be handed out should be attempted and solved. Those to be collected will be due when and as announced by the instructor. Late homework will be penalized by 10% deduction every late day. No homework will be accepted after the instructor returns graded homework to students.

5. Tardiness/Lateness Policy: All homework will be due on the assigned dates. Instructor is under no obligation to grade late homework assignments.

6. Academic Integrity/Honesty Policy: Academic dishonesty in any shape or form will not be tolerated. Written or other work submitted by a student must be the product of his/her own efforts. Plagiarism, cheating and other forms of academic dishonesty, including dishonesty involving computer technology and cell phones, are prohibited. Students caught engaged in any form of academic dishonesty could automatically receive an F in the course. Our goal is to build professional habits, good ethics, and maintain positive attitude and standards among our students.

7. ADA Policy: CSU provides individuals with disabilities reasonable accommodations to participate in educational programs, activities and services. Students with disabilities requiring accommodations to participate in class activities or meet course requirements should contact the Office of Student Disability for their CSU accommodation letters. It is the student's responsibility to obtain and present the accommodation letter to the instructor at the beginning of the semester.

Assessment of Student Progress Toward Course Objectives:

- Homework problems
- Laboratory reports
- Final examination
- In-class interactions and discussions
- Midterm exams and quizzes

Grading: Percent

10	- Attendance
20	- Laboratory assignments and projects
10	- Quizzes
30	- Tests 1, 2 & 3
30	- Final Exam
100	Total

Grading Scale: A = 90% +, B = 80 – 89%, C = 70 – 79% , D = 60 – 69% , F = Below 60%

Additional Documentation:

OBR Use

Approved-Effective Date	
Pending (i.e. Additional Information Requested)	
Disapproved	
Today's Date	

Course Material Submission Form
Instructions and notes

1. Submit completed forms to atpanels@regents.state.oh.us.
2. Use this form to define course matches and to submit new or revised course materials for faculty panel review. Please do not submit a form for multiple OANs or Courses.
3. For course renumbering and credit hour revision, remember to withdraw the old match.
4. For course renumbering and credit hour revision, you may want to include information about how the new numbers relate to the old in the Institutional Notes to the Faculty Panel.
5. Click check boxes to check the item. Text fields will expand as you enter information. Press tab to move forward through form. Press Shift-tab to move backward. Note that these tables are implemented as MS Word tables. Keep that in mind as you are copying and pasting between your syllabi and this form. It is possible to paste tables as nested tables. Use the Edit Menu "Paste as Nested Tables" selection.
6. Once you are done entering your information, save the data file. Under the File menu, choose "Save as" and then enter the name (no spaces!) of the file using the following naming conventions:

    a. For course material submissions: **Institution-OAN-Course Number--Sequence-Version. Institution** is the 4 character HEI institution designation. **OAN** is the Ohio Articulation Number whose match is being defined or revised. **Course Number** is the **transcript** course number. **Sequence** is an indication of which course of a multi-course match is addressed in this form. The sequence is of the form (n of m) for an m-course match. For example, 1 of 1 for a single course match or 1 of 2 and 2 of 2 for a 2 course match. **Version** is a number indicating the revision number of this submission. Start with "Ver1" for the first time submission and include the "Ver".

    Example:

    If you are submitting course materials for Rhodes Community College MATH110 for OMT005 the name of the file would be LMTC-OMT005-MATH110-(1 of 1)-Ver1.

    If you are submitting course materials for Rhodes Community College MATH111 and MATH112 for OMT006 the name of the files would be LMTC-OMT006-MATH111-(1 of 2)-Ver1 and LMTC-OMT006-MATH112-(2 of 2)-Ver1.

7. Course materials must be submitted according to timelines below:

Considering the submissions of **new** courses for TAG matches, our goal is to work toward a timeline as follows:

Submit Course Material:	Start of Term 1
Faculty Panels Review Submitted Courses:	During Term 1
Approved course is effective:	Start of Term 2
Approved course is matched for transcript processing:	Term 3

A new match will have to be approved according to the timeframes below:

Course Approval Sample Timelines

Quarter Institutions

	Summer	Autumn	Winter	Spring
Course Material Submitted for Review	By 6/1	By 8/15	By 1/1	By 3/1
Faculty Panel Reviews Completed	By 8/1	By 12/31	By 2/28	By 5/31

Semester Institutions

	Summer	Autumn	Spring
Course Material Submitted for Review	By 6/1	By 8/15	By 1/1
Faculty Panel Reviews Completed	By 8/1	By 12/31	By 5/31

8. Remember that all institutions are required to have at least one course match for each OAN in all TAGs for which they have corresponding programs.
9. This form should be used for all submissions or resubmissions starting immediately.
10. If you encounter problems or have questions, please contact any of the individuals listed below:

    Jim Ginzer (614) 752-9486 jginzer@regents.state.oh.us
    Sam Stoddard (614) 752-9532 sstoddard@regents.state.oh.us
    Brett Berliner (614) 466-2004 bberliner@regents.state.oh.us