

RECEIVED

MAY 2 2016

OFFICE OF THE  
SENATE COUNCIL

4/13

## 1. General Information

1a. Submitted by the College of: ENGINEERING

Date Submitted: 5/2/2016

1b. Department/Division: Engineering

1c. Contact Person:

Name: Doug Klein

Email: doug.klein@uky.edu

Phone: 8-0651

Responsible Faculty ID (if different from Contact)

Name: Kamyar Mahboub

Email: kc.mahboub@uky.edu

Phone: 7-4279

1d. Requested Effective Date: Semester following approval

1e. Should this course be a UK Core Course? No

## 2. Designation and Description of Proposed Course

2a. Will this course also be offered through Distance Learning?: No

2b. Prefix and Number: EGR 198

2c. Full Title: PLTW Credit

2d. Transcript Title: PLTW

2e. Cross-listing:

2f. Meeting Patterns

LECTURE: 1-6

OTHER:

OTHEREXPLAIN:

2g. Grading System: Pass/Fail

2h. Number of credit hours: 1-6

2i. Is this course repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester?

2j. **Course Description for Bulletin:** This course grants college credit to Project Lead the Way Pathway to Engineering graduates from PLTW Certified high schools. University of Kentucky Engineering students may earn one college credit for each of the PLTW Pathway to Engineering courses [IED, POE, DE, CIM, CSE, CEA, ES, AE] completed while enrolled in secondary school(s), up to a maximum of six UK College of Engineering credits. Three of these credits maybe used in approved engineering majors as support electives. Additional credits past three can be used for fulfill free electives in approved engineering majors. Criteria to obtain the credit include: • Graduation from a PLTW Certified secondary school • Completing each PLTW course with an average of B • Scoring in the 6th Stanine or above on the End-of-Course (EOC) PLTW exam • Enrolling in the UK College of Engineering • Paying any designated University of Kentucky tuition and fees

2k. **Prerequisites, if any:** Process to obtain the credit: •be a graduate of a PLTW Certified secondary school •received a B (or better) in the PLTW course in high school •scored in the 6th Stanine or above on the End-of-Course (EOC) PLTW exam for that course •be enrolled in the UK College of Engineering •pay any designated University of Kentucky tuition and fees

2l. **Supplementary Teaching Component:** Both

3. **Will this course taught off campus?** No

If YES, enter the off campus address:

4. **Frequency of Course Offering:** Spring,

Will the course be offered every year?: Yes

If No, explain:

5. **Are facilities and personnel necessary for the proposed new course available?:** No

If No, explain: Articulated Credit

6. **What enrollment (per section per semester) may reasonably be expected?:** 20

7. **Anticipated Student Demand**

Will this course serve students primarily within the degree program?: No

Will it be of interest to a significant number of students outside the degree pgm?: No

If Yes, explain:

8. **Check the category most applicable to this course:** Relatively New – Now Being Widely Established,

If No, explain: Articulated Credit

9. **Course Relationship to Program(s).**

a. **Is this course part of a proposed new program?:** No

If YES, name the proposed new program:

b. **Will this course be a new requirement for ANY program?:** No

If YES, list affected programs:

10. **Information to be Placed on Syllabus.**

a. Is the course 400G or 500?: No

b. The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from 10.a above) are attached: Yes

## Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2. How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4. Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6. How do course requirements ensure that students make appropriate use of learning resources?

7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8. How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (<http://www.uky.edu/UKIT/>)?

9. Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10. Does the syllabus contain all the required components? NO

11. I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|CHE202|Kimberly W Anderson|EGR 198 NEW Dept Review|20141111

SIGNATURE|BJSTOK0|Barbara J Brandenburg|EGR 198 NEW College Review|20150406

SIGNATURE|JMETT2|Joanie Ett-Mims|EGR 198 NEW Undergrad Council Review|20160413

SIGNATURE|JEL224|Janie S Ellis|EGR 198 NEW Senate Council Review|20160502

SIGNATURE|BJSTOK0|Barbara J Brandenburg|EGR 198 NEW Approval Returned to Dept|20160503

## New Course Form

<https://myuk.uky.edu/sap/bc/soap/rfc?services=>

Generate Form

[Open in full window to print or save](#)

**Attachments:**

Upload File

	ID	Attachment
Delete	5025	EGR 198 Syllabus.doc

1

(\*denotes required fields)

1. General Information

- a. \* Submitted by the College of:  Submission Date:
- b. \* Department/Division:
- c.
- \* Contact Person Name:  Email:  Phone:
- \* Responsible Faculty ID (if different from Contact):  Email:  Phone:
- d. \* Requested Effective Date:  Semester following approval OR  Specific Term/Year
- e.
- Should this course be a UK Core Course?  Yes  No
- If YES, check the areas that apply:
- Inquiry - Arts & Creativity  Composition & Communications - II
- Inquiry - Humanities  Quantitative Foundations
- Inquiry - Nat/Math/Phys Sci  Statistical Inferential Reasoning
- Inquiry - Social Sciences  U.S. Citizenship, Community, Diversity
- Composition & Communications - I  Global Dynamics

2. Designation and Description of Proposed Course.

- a. \* Will this course also be offered through Distance Learning?  Yes  No
- b. \* Prefix and Number:
- c. \* Full Title:
- d. Transcript Title (if full title is more than 40 characters):
- e. To be Cross-Listed <sup>2</sup> with (Prefix and Number):
- f. \* Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours<sup>3</sup> for each meeting pattern type.
- |  |  |                                 |                                 |
|--|--|---------------------------------|---------------------------------|
| <input type="text" value="1-6"/> Lecture | <input type="text"/> Laboratory <sup>4</sup>   | <input type="text"/> Recitation | <input type="text"/> Discussion |
| <input type="text"/> Indep. Study        | <input type="text"/> Clinical                  | <input type="text"/> Colloquium | <input type="text"/> Practicum  |
| <input type="text"/> Research            | <input type="text"/> Residency                 | <input type="text"/> Seminar    | <input type="text"/> Studio     |
| <input type="text"/> Other               | If Other, Please explain: <input type="text"/> |                                 |                                 |
- g. \* Identify a grading system:
- Letter (A, B, C, etc.)
- Pass/Fail
- Medicine Numeric Grade (Non-medical students will receive a letter grade)
- Graduate School Grade Scale
- h. \* Number of credits:
- i. \* Is this course repeatable for additional credit?  Yes  No
- If YES: Maximum number of credit hours:
- If YES: Will this course allow multiple registrations during the same semester?  Yes  No

J. \* Course Description for Bulletin:

This course grants college credit to Project Lead the Way Pathway to Engineering graduates from PLTW Certified high schools. University of Kentucky Engineering students may earn one college credit for each of the PLTW Pathway to Engineering courses [IED, POE, DF, CIM, CSE, CEA, ES, AE] completed while enrolled in secondary school (s), up to a maximum of six UK College of Engineering credits. Three of these credits may be used in approved engineering majors as support electives. Additional credits past three can be used for fulfill free electives in approved engineering majors.

Criteria to obtain the credit include:

- Graduation from a PLTW Certified secondary school
- Completing each PLTW course with an average of B

K. Prerequisites, if any:

Process to obtain the credit:

- be a graduate of a PLTW Certified secondary school
- received a B (or better) in the PLTW course in high school
- scored in the 6th Stanine or above on the End-of-Course (EOC) PLTW exam for that course
- be enrolled in the UK College of Engineering
- pay any designated University of Kentucky tuition and fees

I. Supplementary teaching component, if any:  Community-Based Experience  Service Learning  Both

3. \* Will this course be taught off campus?  Yes  No

If YES, enter the off campus address: \_\_\_\_\_

4. Frequency of Course Offering.

a. \* Course will be offered (check all that apply):  Fall  Spring  Summer  Winter

b. \* Will the course be offered every year?  Yes  No

If No, explain: \_\_\_\_\_

5. \* Are facilities and personnel necessary for the proposed new course available?  Yes  No

If No, explain:

Articulated Credit

6. \* What enrollment (per section per semester) may reasonably be expected? 20

7. Anticipated Student Demand.

a. \* Will this course serve students primarily within the degree program?  Yes  No

b. \* Will it be of interest to a significant number of students outside the degree pgm?  Yes  No

If YES, explain: \_\_\_\_\_

8. \* Check the category most applicable to this course:

- Traditional – Offered in Corresponding Departments at Universities Elsewhere
- Relatively New – Now Being Widely Established
- Not Yet Found in Many (or Any) Other Universities

9. Course Relationship to Program(s).

a. \* Is this course part of a proposed new program?  Yes  No

If YES, name the proposed new program: \_\_\_\_\_

b. \* Will this course be a new requirement <sup>5</sup> for ANY program?  Yes  No

If YES <sup>5</sup>, list affected programs: \_\_\_\_\_

10. Information to be Placed on Syllabus.

a. \* Is the course 400G or 500?  Yes  No

If YES, the *differentiation for undergraduate and graduate students must be included* in the information required in 10.b. You must include: (i) identify additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR

b.  \* The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable above) are attached.

<sup>5</sup> Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

<sup>6</sup> The chair of the cross-listing department must sign off on the Signature Routing Log.

- In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, is two hours per week for a semester for one credit hour. (from SR 5.2.1)
- You must also submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.
- In order to change a program, a program change form must also be submitted.

Rev 8/09

EGR 198: Project Lead the Way  
Credits earned: 1.0-6.0 (variable)

**Instructor:** Dr. Kamyar Mahboub (Dean of Outreach)

**Office Address:** 310 Ralph G. Anderson Bldg.

**Office Phone:** 257-1234

**Email:** [info@pltwky.org](mailto:info@pltwky.org)

**Office hours:** By appointment

**Course Description:**

This course grants college credit to Project Lead the Way Pathway to Engineering graduates from PLTW Certified high schools. University of Kentucky Engineering students may earn one college credit for each of the PLTW Pathway to Engineering courses [IED, POE, DE, CIM, CSE, CEA, BE, AE] completed while enrolled in secondary school(s), up to a maximum of six UK College of Engineering credits. Three of these credits may be used in approved engineering majors as support electives. Additional credits past three can be used to fulfill free electives in approved engineering majors.

**Prerequisites:** Completion of PLTW Engineering course(s)

**Process for receiving EGR 198 credit**

To obtain credit for EGR 198, you must

- be a graduate of a PLTW Certified secondary school
- received a B (or better) in the PLTW course in high school
- scored in the 6<sup>th</sup> Stanine or above on the End-of-Course (EOC) PLTW exam for that course
- be enrolled in the UK College of Engineering
- pay any designated University of Kentucky tuition and fees

Students need to contact the PLTW Affiliate Director (at UK) to request EGR 198 credit(s) through [info@pltwky.org](mailto:info@pltwky.org). The student's PLTW Teacher, Administrator, or Counselor will need to submit required data to the PLTW Affiliate Director. On approval Affiliate Director sends information to student on number of credits received.

**Student Learning Outcomes:**

After completing a PLTW Engineering courses students will have additional skills and knowledge in a variety of areas depending on the specific course, described below.

**Description of PLTW Engineering Courses**

In PLTW Engineering, high school students engage in open-ended problem solving, learn and apply the engineering design process, and use the same industry-leading technology and software as are used in the world's top companies. Students are immersed in design as they investigate topics such as sustainability, mechatronics, forces, structures, aerodynamics, digital electronics and circuit design, manufacturing, and the environment, which gives them an opportunity to learn about different engineering disciplines before beginning post-secondary education or careers.

**Introduction to Engineering Design (IED, 1 year)**

Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software, and use an engineering notebook to document their work.



**Principles of Engineering (POE, 1 year)**

Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.

**Aerospace Engineering (AE, 1 year)**

This course propels students' learning in the fundamentals of atmospheric and space flight. As they explore the physics of flight, students bring the concepts to life by designing an airfoil, propulsion system, and rockets. They learn basic orbital mechanics using industry-standard software. They also explore robot systems through projects such as remotely operated vehicles.

**Civil Engineering and Architecture (CEA, 1 year)**

Students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architecture design software.

**Computer Integrated Manufacturing (CIM, 1 year)**

Manufactured items are part of everyday life, yet most students have not been introduced to the high-tech, innovative nature of modern manufacturing. This course illuminates the opportunities related to understanding manufacturing. At the same time, it teaches students about manufacturing processes, product design, robotics, and automation. Students can earn a virtual manufacturing badge recognized by the National Manufacturing Badge system.

**Computer Science and Software Engineering (CSE, 1 year)**

Open doors in any career with computer science! In CSE, students create apps for mobile devices, automate tasks in a variety of languages, and find patterns in data. Students collaborate to create and present solutions that can improve people's lives, and weigh the ethical and societal issues of how computing and connectivity are changing the world.

**Digital Electronics (DE, 1 year)**

From smart phones to appliances, digital circuits are all around us. This course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices.

**Environmental Sustainability (ES, 1 year)**

In ES, students investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy. Applying their knowledge through hands-on activities and simulations, student's research and design potential solutions to these true-to-life challenges.

**Fine Print**

There are no grades associated with EGR 198, credit will appear as pass (P). Please note, EGR 198 does not meet during the semester at UK so that there are no required materials, no course assignments, mid-term or final exams or attendance policy.