

**CGT 163 Spatial Analysis and Graphics Communication  
Syllabus  
Spring 2020**



*"As a Boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do.  
Accountable together - we are Purdue."*

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**Course Director**

Professor Craig L. Miller, Ph. D. – [miller02@purdue.edu](mailto:miller02@purdue.edu) – 337 Knoy Hall of Technology

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**Instructor Office Hours**

|       | Monday                            | Tuesday                    | Wednesday                  | Thursday                          | Friday                            |
|-------|-----------------------------------|----------------------------|----------------------------|-----------------------------------|-----------------------------------|
| 7:30  |                                   |                            | Mr. Zhiwen Cao<br>KNOY 335 |                                   |                                   |
| 8:30  |                                   |                            | Mr. Zhiwen Cao<br>KNOY 335 |                                   |                                   |
| 9:30  |                                   |                            | Mr. Zhiwen Cao<br>KNOY 335 | Mr. Syed Faaiz Hussai<br>KNOY 335 |                                   |
| 10:30 |                                   |                            |                            | Mr. Agam Mehta<br>KNOY 335        | Mr. Ana Dalipi<br>KNOY 335        |
| 11:30 |                                   |                            |                            |                                   | Mr. Ana Dalipi<br>KNOY 335        |
| 12:30 | Mr. Mathew Spinazolla<br>KNOY 335 |                            |                            |                                   | Mr. Ana Dalipi<br>KNOY 335        |
| 1:30  | Mr. Mathew Spinazolla<br>KNOY 335 | Mr. Tianyu hou<br>KNOY 335 |                            |                                   |                                   |
| 2:30  | Mr. Agam Mehta<br>KNOY 335        | Mr. Tianyu hou<br>KNOY 335 | Mr. Agam Mehta<br>KNOY 335 | Mr. Mathew Spinazolla<br>KNOY 335 | Mr. Syed Faaiz Hussai<br>KNOY 335 |
| 3:30  |                                   | Mr. Tianyu hou<br>KNOY 335 |                            | Mr. Syed Faaiz Hussai<br>KNOY 335 |                                   |
| 4:30  |                                   |                            |                            |                                   |                                   |

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**Course Description**

CGT 163 is an introductory course in computer graphics applications for mechanical and aeronautical related professions. Experiences focus on visualization, sketching, graphic standards and problem-solving strategies for engineering design. The course will emphasize the proper use of parametric solid modeling for design intent.

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## Course Objectives

1. Describe the importance of engineering/technical graphics in the design of made products.
2. To advance your spatial abilities that would allow you to successfully communicate engineering ideas using visual techniques. (foundational applied understanding)
3. Utilize two- and three-dimensional geometry for engineering and technical applications.
4. Apply basic industry graphics standards to engineering design.
5. Sketch basic freehand representations of technical concepts.
6. Demonstrate proficiency using basic 3D computer-aided design (CAD) processes.

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## Required Materials

- **Textbook**

Please purchase the bundle for the following book:  
This bundle includes:

**Applied Geometry for Engineering Design, Miller, C.L.**

**Essentials of Product Data Management: Enabling the Digital Enterprise, Camba, Mueller, Fuerst**

<http://www.eacademicbooks.com/BookDetail.asp?product=CGT%20163>

*Notes: Make sure you purchase the **bundle** instead of the individual book.*

- **Sharpie Pen**

- **Non-bleed black sharpie pen (fine point)**
- **Not a Sharpie permanent marker**



- **.5 Mechanical Pencil**

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## Grading

| Activity          | Percentages | Grading Scale | Grade* |
|-------------------|-------------|---------------|--------|
| Assignments       | 040%        | 98            | A+     |
| Quizzes           | 020%        | 92            | A      |
| Final Project     | 030%        | 89            | A-     |
| Digital Portfolio | 010%        | 87            | B+     |
| Total             | 100%        | 82            | B      |
|                   |             | 79            | B-     |
|                   |             | 77            | C+     |
|                   |             | 72            | C      |
|                   |             | 69            | C-     |
|                   |             | 67            | D+     |
|                   |             | 62            | D      |
|                   |             | 59            | D-     |
|                   |             | 00            | F      |

- Regardless of the above percentages, **any student who fails to submit by the posted deadlines 13 or more assignments will receive a failure (F) for the course.**
- Regardless of the above percentages, **any student who fails to attend four (4) or more Laboratory Preparation (LP) lectures will receive a failure (F) for the course.**
- **All email correspondence has the following requirements:**
  - The email subject line must be as follows:
    - CGT 163 – XX (XX = lab #). **If this requirement is not met the email will be trashed without being read.**
    - Any email correspondence sent to Dr. Miller must be copied to the student's laboratory instructor.
    - Any email that you send that asks a question that the information in your question can be found in the CGT 163 syllabus will result in ten (10) deduction from your assignment points. Please read the syllabus before asking a question that you already have the answer for!

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## Lecture Expectations

- **You are expected to attend all lectures, after all you have paid for them!**
- **No electronic devices (laptops, mobile phones, handhelds, etc.) are permitted** to be used in lecture, unless specifically allowed by the course supervisor. A 50-assignment-point penalty can be accessed per occurrence.
- **Sleeping is not permitted in lecture.** A 50-assignment-point penalty will be accessed per occurrence.

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## Assignments

- CGT 163 assignments include freehand sketching, CAD, and others.
- Every assignment (both CAD and sketching) will have a corresponding naming convention to assist in quick return of graded materials and also represents industry naming conventions. The naming convention, demonstrated below, will also correspond to the filename of any saved CAD homework. You are **REQUIRED** to use this naming convention or major points will be deducted from your score.

002309            00 Section number corresponding to your class schedule  
                     23 Your assignment number  
                     09 Assigned seat number in your laboratory

- Assignments are due the next laboratory session:
  - Sketch assignments will be collected at the beginning of the next laboratory session.
  - CAD assignments will be submitted to [Blackboard Learn](#) no later than 11:59 p.m. the day prior to the to your assigned lab session of the following week. *Example: A CAD assignment released at the beginning of Week 02 will be due at 11:59 p.m. the day prior to your lab in Week 03.*
  - Assignments will be graded by laboratory instructor in lab.
- **Late assignments will NOT be accepted, unless prior arrangements are made with your instructor.**
- **No assignment due in the labs can be made up for receiving credit unless you hold a valid reason for absence and prior arrangements are made with your instructor.**
- **No lecture assignment can be made up for receiving credit unless you hold a valid reason for absence and prior arrangements are made with your instructor.**
- **You must be present in laboratory to receive credit for laboratory assignments.** This is when the most assignments are graded and performance feedback is individually given. **Even if you make the submission deadline on [Blackboard Learn](#) you still must come to laboratory to receive credit for the assignments.**
- Having someone else turn in any assignment(s) for you so that you do not attend a lecture, laboratory preparation, or laboratory will result in a grade of zero being assigned to all assignments that are due.
- If you do not agree with the grade that you received from your laboratory instructor the course director will re-grade your work and you will be assigned the new grade from the re-grade of your work by the course director.
- Any questions regarding the grade assigned on an assignment or a test must be directed to your laboratory instructor or the course director within **two weeks** of the assignment deadline date or the date of the test administration.

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## Lecture and Laboratory Attendance

- You are expected to attend all CGT 163 lectures and your own laboratory sessions.
- You are being allowed for five minutes (5) late for laboratory sessions. If you are not able to arrive at the lab room due to time conflict on a regular basis, you need to make arrangement with your laboratory instructor.
- **Being absent for any lecture or laboratory session WITHOUT a valid reason will result in zero point for any lecture notes or assignments due in that lecture or lab.**
- If you must miss a lecture, laboratory preparation, or laboratory WITH a valid reason (attending conference, job interview, military leave, etc.), you need to contact your instructor **PRIOR** to your lecture, laboratory preparation, or laboratory **in a timely fashion** and make any necessary arrangements.
- If you are ill and cannot attend your lecture, laboratory preparation, or laboratory then you need to contact your instructor **via email** before the end of the lecture, laboratory preparation lecture or laboratory for any consideration of a deadline extension.

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## Academic Honesty/Dishonesty

Students are encouraged to work together but **each student is required to do their own work**. Standards set by Purdue University as outlined in the Student Handbook and the University Regulations (current edition) will be observed in this course. Any student found participating in cheating, plagiarism, copying material from another person's disk, using illegal cribs or other materials forbidden during a written or practical examination, lying to course instructors and/or lab assistants about his/her work, stealing tests, quizzes, or answer keys, or any such like activities will be considered in conflict with the printed academic honesty guidelines as set out by Purdue University, Purdue Polytechnic Institute, and Department of Computer Graphics Technology. All matters that arise in regards to students being found to be in conflict with these guidelines will be reported to the Office of the Dean of Students, and the appropriate Purdue University administration officers, for consideration and possible disciplinary action. **BOTTOM LINE: IF YOU ARE CAUGHT CHEATING IN CGT 163 YOU WILL EARN A FAILING COURSE GRADE AND BE REPORTED TO THE DEAN OF STUDENTS; NO EXCEPTIONS.** Incidents of academic misconduct in this course will be addressed by the course instructor and referred to the Office of Student Rights and Responsibilities (OSRR) for review at the university level. In addition, all incidents of academic misconduct will be forwarded to OSRR, where university penalties, including removal from the university, may be considered. Students may refer to the [Purdue University Student Conduct Policy](#).

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breeches of this value by either emailing [integrity@purdue.edu](mailto:integrity@purdue.edu) or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

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## Counseling and Psychological Services (CAPS) Information

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765) 494-6995 and <http://www.purdue.edu/caps/> during and after hours, on weekends and holidays, or through its counselors physically located in the Purdue University Student Health Center (PUSH) during business hours.

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## Emergency Notification Procedures

**EMERGENCY NOTIFICATION PROCEDURES** are based on a simple concept – if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.

- **Indoor Fire Alarms** mean to stop class or research and immediately **evacuate** the building. Proceed to your Emergency Assembly Area away from building doors. **Remain outside** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.
- **All Hazards Outdoor Emergency Warning Sirens** mean to immediately seek shelter (**Shelter in Place**) in a safe location within the closest building. o “Shelter in place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, a civil disturbance including a shooting or release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency\*. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

*\*In both cases, you should seek additional clarifying information by all means possible...Purdue Home page, email alert, TV, radio, etc...review the Purdue Emergency Warning Notification System multi-communication layers at [http://www.purdue.edu/ehps/emergency\\_preparedness/warning-system.html](http://www.purdue.edu/ehps/emergency_preparedness/warning-system.html)*

### Review the **Emergency Procedures Guidelines**

[https://www.purdue.edu/emergency\\_preparedness/flipchart/index.html](https://www.purdue.edu/emergency_preparedness/flipchart/index.html)

- Review the **Building Emergency Plan** (available from the building deputy) for:
  - evacuation routes, exit points, and emergency assembly area,
  - when and how to evacuate the building,
  - shelter in place procedures and locations,
  - additional building specific procedures and requirements.

## EMERGENCY PREPAREDNESS AWARENESS VIDEOS

"Shots Fired on Campus: When Lightning Strikes," is a 20-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See: <http://www.purdue.edu/securePurdue/news/2010/emergency-preparedness-shots-fired-on-campus-video.cfm> (Link is also located on the EP website)

## MORE INFORMATION

Reference the Emergency Preparedness web site for additional information:

[http://www.purdue.edu/emergency\\_preparedness](http://www.purdue.edu/emergency_preparedness)

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## Intellectual Property (IP)

For concerns about IP, including IP resulting from student participation in course assignments, see Purdue University's [Policy VIII.4.1, Intellectual Property](#)

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## Minor

An engineering/technical graphics minor focused on product lifecycle management (PLM) is available from The Department of Computer Graphics Technology.

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## Acknowledgement of Course Policies

As a Boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue. I have read and understood all aspects of the CGT 163 syllabus and my expectations to be successful in CGT 163 and agree to adhere to them.

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Last & First Names  
(Printed in black ink)

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Signature  
(Signed in black ink)

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Date  
(Printed in black ink)

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Assignment #  
(Signed in black ink)