# CHAMP Course Map

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| **Course Name:** CAD 244 - Advanced Inventor |
| **Instructor Name:** Rick Glesner | July 2016 |
| This course focuses on the advanced applications of the parametric software Inventor. Includes management of design data, advanced assembly and analysis of model creations and constraints, documentation of bill of materials and parts lists, rendering and animation and testing a model assembly. |
| **Course Competencies:**  At the end of the course the participants will be able to:1. **Managing data/designs using Inventor Vault.**
2. **Advanced assembly control using iMates/motion/transition controls.**
3. **Analyze designs and assemblies by driving constraints.**
4. **Documenting parts and assemblies - Bill of Materials - Parts Lists.**
5. **Use Inventor Studio to render/animate assemblies.**
6. **Dynamically test a model assembly.**

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**Course Materials (Text, Edition and any other publisher items)**

**Textbooks and/or Resources:**

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| **Module # and Title** | **CCNS Competencies** | **Content, Activities or Challenges****(Learner Interaction** **& Engagement)**  | **Assessments, Rubrics (Feedback)** | **Publish to OER** |
| **Module 1** **Review the Inventor Interface** | 1 | 1. View PowerPoint on Basic Inventor Review
2. Lecture on
* The Inventor Interface
* Modeling in Inventor- Reviewing the Steam Engine from CAD 240
* Assembling in Inventor
* Controlling "Tweaking" Assemblies for Exploded Assemblies
 |  | * Syllabus and course outline
* Inventor Review PowerPoint
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| **Module 2** **Advanced Part Modeling Techniques**  | 3 | 1. View Advanced Part Modeling PowerPoint
2. Select an object to model
3. Modeling Assignment on object of choice
 | Modeling Assignment | * Advanced Part Modeling PowerPoint
* 3d Rubric
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| **Module 3****Advanced Modeling Techniques – iParts/iFeatures/iMates** | 2, 4, 5, 6 | 1. View iParts/iFeatures PowerPoint
2. iProperties Assignment
	* Select parts from Inventor Part library
	* Download 12 parts into Model Space
	* Use iParts, iFeatures, iMates and iProperties to assemble and edit the iNodes
 | iProperties Assignment | * iParts/iFeatures PowerPoint
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| **Module 4****Advanced Modeling Techniques – Sheet Metal** | 3, 4 | 1. View Sheet Metal PowerPoint
2. Sheet Metal Design Assignment
 | Sheet Metal Assignment | * Sheet Metal Design PowerPoint
* Sheet Metal Design Image File
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