# **College Curriculum Outline**

Welcome to the Onshape College Curriculum! This outline briefly explains what kind of topics will be covered every week:

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| **Week 1: Getting Started** | * Creating an Onshape account * Navigating a 3D environment * Explaining sketch-based modeling * Introducing the 4 foundational features (extrude, revolve, sweep, and loft) * Transitioning from 2D to 3D * Introducing basic sketching |
| **Week 2: Parts** | * An introduction to “Design Intent” * Using dimensions and constraints * Automatic inferencing * Making an accurate part * Sketching practice * Using and creating planes * Creating fillets and chamfers * Utilizing multiple sketch regions * Basic parts |
| **Week 3: Multi-Part Part Studio** | * Using Boolean operations * Applying linear and circular patterning * An introduction to concurrent top-down and bottom-up designs * Creating a Multi-Part design in a Part Studio |
| **Week 4: Assemblies** | * Lesson on degrees of freedom * An introduction to assembly Mates * Mate Connectors * Manipulating part position with the triad * Explaining Mates and Relations * Animating Mates * An introduction to Linked Documents * Applying limits to a Mate |
| **Week 5: 2D Drawings** | * An introduction to engineering drawings * Creating drawing views, dimensioning, tolerancing, notes * Using formats/templates * Introducing GTOL/GD&T |
| **Week 6: Product Design Within Teams** | * Starting Bluetooth Speaker project * Creating teams * Using derived parts * Organizing the Feature Tree * Simultaneous collaboration (i.e. “Google Docs-style collaboration) * Including comments * Following |
| **Week 7: Iterative Design** | * Continuing Bluetooth Speaker project * Using FeatureScript for screw bosses and ribs * Adding additional model detail * Version control and history * Re-ordering parametric features * Exercising top-down design |
| **Week 8: Advanced Assembly** | * Continuing Bluetooth Speaker project * Using Linked Documents for standard hardware * Advanced Assembly concepts * Applying “snap mode” in Assembly * Grouping in Assembly * Replicating for fasteners |
| **Week 9: Advanced Geometry & Design** | * Starting Chopper project * Advanced part modeling * Advanced top-down design * Applying drafts * Using surfaces * Splitting parts * Using variables/expressions * Editing appearance/transparency |
| **Week 10: Design for Manufacturing** | * Using the Hole Tool * Using FeatureScript for spur gears * Importing Solidworks® CAD Pack/Go files * Direct editing an existing part (modify fillet, delete/move/replace face) * An introduction to the Onshape App Store (through a look at a CAM app) |
| **Week 11: Product Data Management** | * Advanced part modeling * Lofting * Importing and manipulating sketch picture * Sketching with splines * Embossing logo * Drawing a helix to make a spring * Using Branch/Compare/Merge features |
| **Week 12: Advanced Tools & Design for Assembly** | * Using section view to look for interference * Applying Gear Relations * Applying materials and using Mass Properties * Using the explode view from App Store * Making edits from Onshape Mobile * Exporting Solidworks® CAD files |