



RAPID PROTOTYPING & ADDITIVE MANUFACTURING CERTIFICATION

RAPIDTech

National Center for Rapid Technologies

Saddleback College, 28000 Marguerite Pkwy.
Mission Viejo, CA 92692

Tel - (949) 582-4831 | FAX (949) 582-4380
www.rapidtech.org

Saddleback College

- Located in Mission Viejo, California
- 22,000 Students Enrolled
- Accreditation
 - Accrediting Commission for Community and Junior Colleges (ACCJC)
 - Western Association of Schools and Colleges (WASC)

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RAPID **D**IGITAL **M**ANUFACTURING

- Project Management
- CAD/3D Solids
- Rapid Prototyping
- Advanced Rapid Prototyping
- Material Science
- Manufacturing Process

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Project Management

- Identify Phases
- Identify Resources
- Resource Allocation
 - Personnel
 - Equipment
 - Materials

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CAD/3D Solids

- GD&T
- Measuring Instruments
- Blueprint Reading
- 2D Computer Aided Design
- 3D Computer Aided Design
- Solids

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Rapid Prototyping

- Safety
- MSDS
- How RP Machines Work
- Comparative Technology Overview
- RP Process Selection
- STL File Structure
- Edge Length Calculation
- Common STL Problems
- Common STL Repair Procedures
- Part Placement
- Build Orientation
- User Level Maintenance
- RP System Calibration
- RP System Setup (Pre-Flight Checklists)
- Basic Finishing
- Basic Measurement

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Advanced Rapid Prototyping

- Rapid Tooling
- Secondary Processes
- Advanced Finishing
- Silicone Mold Making
- Resin Casting
- Subtractive Prototyping
- Tool path Generation
- Process Control
- RP System Maintenance
- RP System Calibration
- Advanced File Repair
- Single Use Tools
- Vacuum Forming
- Inspection
- Quality Assurance
- Casting Patterns
- Safety
- MSDS

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Material Science

- Identification
- Testing Standards
- Performance
- Cost Analysis
- Engineering Standards
- Shrinkage
- Expansion
- Hardness
- Strength

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Manufacturing Process

- Milling
- Drilling
- Shaping
- Forming
- Injection Molding
- Metal Casting
- Electroforming
- EDM
 - Wire
 - Sinker

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Special Topics

- Art & Animation
- Architecture
- Medical Devices
- Bio Medical Modeling
- Consumer Products
- Advanced Finishing
- Aerospace
- Motor sports
- Jewelry
- Digital Shape Verification

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Delivery Methods

- Web based distance education
 - Blackboard
 - Camtasia
 - Video instruction
 - Test out

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Skills Competency Testing

- Network of local competency centers
 - Skills Portion
 - Local Availability
 - College Professors/Proctors

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Discussion

- Steering Committee
- Additional Areas
- Industry Acceptance
- Value Added Skill Sets

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