Extended Lesson Plan Inspired by Michaela Mavrogianni

Breaking Barriers in Technology: Inspiring Girls through the Story of a Female Computer Engineer

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1 – GENERAL INFORMATION

Lesson Title:

- ***From Code to Creativity: Michaela Mavrogianni's Journey in Computer Engineering***
- **Alternative: *Women in Tech: Resilience, Innovation, and Leadership in Software Development***

Teacher's Name:
[To be filled in – name, institution, and country]

Target Group:

- **Girls aged 13–16, interested in computers, technology, and digital skills**
- **Can also be adapted for mixed classes to promote gender equality in technology**

Subjects:

- **Computer Science / Programming**
- **Career Guidance / Digital Professions**
- **STEM Awareness (Technology & Engineering)**
- **Social Studies (Gender Equality & Future of Work)**
- **Language Arts (storytelling, reflections)**

Duration:

- **Two lessons × 40 minutes each (can be adapted into workshops or coding clubs).**

Materials/Tools:

- **Michaela's bio & story (short text or video interview)**
- **Inspirational tech quotes (e.g., "Coding is today's language of creativity.")**
- **Laptop/projector, coding demo (optional)**
- **Post-it notes, worksheets, markers**
- **Online collaboration tools (Google Jamboard, Padlet, or offline alternatives)**

References:

- **CodingGirls WP3 Guidelines**
- **Michaela Mavrogianni's Bio & Story draft**
- **CodingGirls Lesson Plan Template**

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2 – LEARNING OBJECTIVES

By the end of this lesson, students will be able to:

Knowledge

- **Recognize Michaela's academic and professional journey as a computer engineer.**
- **Identify different roles in the software industry (developer, tester, project manager, UX designer).**
- **Understand the importance of coding, teamwork, and continuous learning in tech.**

Skills

- **Collaborate in groups to brainstorm digital solutions.**
- **Practice problem-solving and creativity through coding or logic tasks.**
- **Communicate their STEM dreams through writing and visuals.**

Attitudes & Values

- **Appreciate the role of women in technology and digital innovation.**
- **Gain confidence that software careers are open to everyone, regardless of gender.**
- **Be inspired to experiment with coding and digital tools.**

Extended Objective:

- **Connect Michaela's story to future digital skills (AI, cybersecurity, cloud computing, big data) and how these fields shape society.**

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3 – KEYWORDS & THEMES

Keywords:
Women in Tech – Computer Engineering – Coding – Software Development – Innovation – Digital Transformation – Gender Equality – Creativity – Problem-Solving – Lifelong Learning

Themes:

- **Women breaking stereotypes in computer science.**
- **The importance of perseverance in a male-dominated industry.**
- **Coding as creativity, not just technical work.**
- **Global opportunities in technology.**
- **Diversity in tech teams = better innovation.**

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4 – STEP-BY-STEP TEACHING PROCEDURE

Lesson 1 (40 min): Discovering Michaela's Journey

Warm-Up (5 min)

- **Teacher writes: "Technology – Future – Women – Innovation."**
- **Students share what jobs they imagine exist in a software company.**

Introduction (5 min)

- **Teacher presents Michaela: a computer engineer who now works for a big software company, contributing to global projects.**
- **Optional: show video or short text about her story.**

Storytelling & Milestones (25 min)

1. **Early Passion for Computers – Why she chose computer engineering.**
2. **University & First Coding Challenges – Struggles with complex coding problems.**
    - **Group brainstorm: *"What makes coding difficult but rewarding?"***
3. **Career in a Big Software Company – Teamwork, global collaboration, solving real-world problems through technology.**
4. **Advice & Inspiration – "Technology is not just about machines, it's about people."**

Exit Ticket (5 min)
Students complete: *"The coolest thing I learned from Michaela's journey is…"*

Lesson 2 (40 min): From Inspiration to Digital Action

Warm-Up (5 min)

- **Teacher writes the quote: *"Coding is today's language of creativity."***
- **Students reflect: What can we "create" with code?**

Reinforcement (5 min)

- **Revisit Michaela's story: What qualities helped her succeed in a male-dominated industry?**

Group Task – "Design Your App" (15 min)
Groups imagine a simple app or digital tool that solves a real-life problem (e.g., school organization, recycling, online safety).

- **They create a poster or roadmap with:**
    - **Name of the app**
    - **Problem it solves**
    - **Main features**
    - **Target users**

Presentations & Peer Feedback (10 min)

- **Groups present their "apps."**
- **Class feedback: (+) strengths, (💡) improvements.**

Reflection & Closing (5 min)

- **Students write a mini "Letter to Michaela": *"You inspired me to think about…"***
- **Teacher closes: *"Like Michaela, you can use creativity and coding to shape the digital future."***

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5 – CROSS-CURRICULAR INTEGRATION

- **Computer Science: Coding, algorithms, problem-solving.**
- **Technology/Engineering: Software development process, teamwork in tech.**
- **Social Studies: Gender equality in digital professions.**
- **Career Guidance: Future of jobs in the digital economy.**

- **Language Arts: Storytelling through letters, app descriptions, and presentations.**

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6 – EVALUATION CRITERIA

Tools for assessment:

- **Exit Tickets – check emotional and knowledge takeaways.**
- **Group App Posters – creativity, relevance, teamwork.**
- **Presentations – clarity, engagement, originality.**
- **Letters to Michaela – reflection and personal engagement.**

Rubric Dimensions (1–5):

- **Participation & Collaboration**
- **Creativity & Innovation**
- **Reflection & Empathy**
- **Communication Skills**

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7 – RESOURCES & ENRICHMENT ACTIVITIES

1. **"Women in Tech" Gallery – students research famous women in technology (e.g., Ada Lovelace, Grace Hopper).**
2. **Coding Challenge Hour – students try a block-based coding task (Scratch, Code.org) or beginner Python activity.**
3. **Digital Wall of Dreams – students share "My dream tech project" online or on a class poster.**
4. **School/Online Visit – invite a female software engineer to share her story.**
5. **Community Collaboration – connect student projects with local tech initiatives or hackathons.**
6. **Creative Writing Extension – "If I could build an app like Michaela, it would…"**

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8 – SUPPORTING MATERIALS

- **Digital Materials: Michaela's Bio & Story, worksheets, app design templates.**
- **Stationery: Poster paper, markers, sticky notes.**
- **Accessibility Options: Larger printouts, oral sharing, simplified worksheets.**
- **Optional Tech Tools: Scratch, MIT App Inventor, or Figma for simple app design demos.**